# THE BRICKBVILDER

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# THE BRICKBVILDER

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# The Planning of Trade and Industrial School Buildings.


*By* LEWIS GUSTAFSON.

*Superintendent of The David Ranken, Jr., School of Mechanical Trades, St. Louis, Mo.*


## I. GENERAL CONSIDERATIONS OF THE PLAN.

THE facilities provided for manual training in the high schools of this country have, thanks to the thoughtful and skilful labors of such architects as Mr. Ittner of St. Louis and Mr. Snyder of New York, been brought to a high degree of perfection. The general plan for manual training has been worked out. It is admirably adapted to its purpose. Further improvement would seem possible only in matters of minor detail.

Another type of education, however, has been growing up in this country alongside manual training during the past ten years for which the conventional manual training provision has been found wholly inadequate — a type of education demanding a building all its own. This new type goes by the name of industrial or vocational education. It is my purpose in this article to explain this new education and to set forth some of its architectural requirements. I must of necessity write non-technically as a layman with no architectural presumptions, but with several years of experience as "owner" or tenant. Perhaps the best way to open the explanation is to show wherein manual training and industrial education differ.

Manual training has grown up in our schools as an adjunct to general education. It had its origin in the recognition of the fact that boys have bodies as well as minds; that the only way to educate some boys is to give them something to do with their hands; that the best way to educate any boy is to get him to use hand and brain and eye together for at least part of the time. It had for its slogan, "Send the whole boy to school!"

As an adjunct to general education, it has been given a place quite supplementary to book learning. In the elementary schools it has been limited in most places to two or three hours a week in the seventh and eighth grades, and in the high schools to three or four hours a week during the four years. In the elementary school it has run largely to benchwork in wood with some woodturning. The product has been mostly pen trays, coat hangers, bird houses, etc. — all small things. In the high schools the curriculum has covered woodwork (including woodturning and patternmaking), forging, moulding, and machine-shop practice. The product has run to dumbbells, Indian clubs, Morris chairs, small gasoline engines, and other things of like nature.

As an adjunct to general education it has concerned itself with general principles; it has endeavored to train hand and eye and mind together; to impart information regarding fundamental principles of science and construction; to train the æsthetic sense through the making of beautiful things in wood and metal. It has not been directly concerned in fitting boys to earn their living, though frequently boys have put to industrial use the drafting and shop skill and knowledge of tools and of construction learned in manual training classes.

As an adjunct to general education, manual training has been awarded space in the school buildings proportionate to its weight in the general scheme. In elementary schools this space has frequently been confined to one or at the most two rooms, little, if any, larger than the ordinary class room. The space in high schools has been more generous, but still small, in proportion to the whole. The Soldan High School in St. Louis, for example, built to accommodate 1,600 pupils, contains a total of ninety-two rooms. Of these only five are shops. These comprise a woodworking room, 30 feet 6 inches by 65 feet; a woodturning room, 30 feet 6 inches by 80 feet; a machine shop, 30 by 69 feet; a forge room, 30 by 60 feet; a moulding room, 25 by 38 feet, with necessary stock, preparation and motor rooms, instructors' offices, etc., taking up possibly 16,500 square feet of floor area — considerably less than one-tenth of the floor area of the entire building.

These figures are given with no thought of disparagement. Manual training is an admirable thing and will always be needed. The Soldan High School is one of the best high schools in the country not only as to building, but as to instruction and management. The manual training course is only one of ten excellent parallel courses offered in the school, and the space allowed is ample for the purpose intended, although the school has an enrolment considerably in excess of the 1,600 for whom it was originally planned. These figures from this school are given solely to present more sharply the contrast between manual training and the new education, and to emphasize more strongly the need for a different style of building for the latter.

The establishment of industrial education finds its justification in the increasing difficulty this country experiences in obtaining skilled artisans and competent foremen and superintendents. How serious this difficulty is in the building trades, and how rapidly it is becoming more

serious, every architect knows to his exasperation if not to his sorrow. The situation is equally serious in the machine trades and in all other occupations requiring a combination of manual skill and technical knowledge. The decline of the old apprentice system, the growing complication in manufacturing and building processes, with the accompanying minute subdivision of labor, the almost total cessation of skilled artisan immigration, in some cases the restriction of apprentices by labor organizations and in others the unwillingness of employers to bother with beginners, have all combined to bring about this scarcity and to urge the establishment of some means of training workers outside of the occupations themselves — in other words, the establishment of schools different from those giving manual training for general or cultural ends, whose purpose shall be not general education, but education closely linked to the industries; whose graduates may go directly into the industries equipped not only to earn their living there, but to contribute a share of the skill and industrial intelligence which the industries need for their further development.

These schools have begun to appear and are destined to appear in rapidly increasing numbers. They take several forms, for boys and for girls, ranging from the high school with a slightly increased manual training content, still somewhat subordinated to the general curriculum, through the industrial or vocational high school, to the very definite, closely specialized, closely limited trade school. It is with the latter and with those that approach the latter in their seriousness as preparatory schools for the industries rather than as preparatory schools for the universities or for that vaguer thing which school teachers are inclined to call "after life," that this discussion has to deal. The schools chosen as examples to be discussed in these papers by no means exhaust the list of even those most prominent in the field of such instruction; they are selected as prominent institutions whose buildings are new enough and similar enough in their main characteristics to reflect a recent and definite tendency in design and construction. Engineering schools and technical institutes of collegiate rank have purposely been omitted as training for professional rather than artisan life. Two of the schools to be considered, the Worcester Boys' Trade School and the Milwaukee Public School of Trades for Boys, are maintained by public taxes as part of the public school system of their respective cities. The others are operated as philanthropies on liberal private endowments.

Whatever their source of income, the general scheme of instruction is the same in all. They all teach shopwork, drafting, and mathematics, and most of them teach applied science. These items in the curriculum are based on the fundamental needs of the mechanic. Shopwork is given first and foremost, that he may know how to handle his tools with skill; drafting, that he may know how to read the drawings and blueprints that embody his working directions, and on occasion, as foreman or jobber, make simple working drawings himself; mathematics, that he may know how to figure out dimensions, loads, quantities, prices, etc.; and applied science, that he may understand the mechanical principles involved in his trade and be acquainted in a simple way with the physical and chemical characteristics of his materials and know how to combat those forces, like rust and rot, that cause his materials to deteriorate.

*Shops.* Of these items the shopwork is by far the most important, since no amount of technical knowledge can compensate for any lack of ability on the part of the artisan to perform the manual side of his work with skill and dispatch, and because, incidentally, in the very acquirement of this manual skill the artisan with brains cannot fail to absorb a good deal of technical knowledge. This makes the shop and the shop accommodations the basic consideration upon which the whole building should be planned.

To be real and to instruct properly, the work in the shop must resemble as closely as possible the work in the trade itself. This means that the shop must be a trade shop, and not merely a shop in a school. It must, above all, be large enough for the work in hand and must be equipped with proper tools for the manufacture of the product, and be provided with proper facilities for bringing in and storing material and for routing the product in the process of making. If it is a machine shop, it must be equipped with real machines such as a modern factory would use. These must be full size, capable of turning out full-size work, large and small, similar to that turned out in any general jobbing shop. If it is a shop for carpentry or bricklaying, it must be ample in length and breadth and height to allow for the erection of entire buildings and parts of buildings built to full size. If it is a foundry, it must be a real foundry, capable of turning out sizable castings of commercial value.

Moreover, the shop must be large enough to allow for the storage of these full-size articles between shop periods. Where the articles are light and small, they can be placed in a bench drawer or in a storeroom. Where they are bulky and heavy or cannot be disturbed — as in certain kinds of machine or foundry work, or in carpentry or bricklaying or tinning or housewiring or plumbing — the things being made must be left as they are from period to period, and any other pupils using the shop must work around them.

Even where the shop is large enough for these requirements it will accommodate only a few students as judged by manual training standards. In the ordinary manual training school the pupil spends most of his time at general studies and only about four hours a week at the most in the manual training department. Given a thirty-hour school week, a manual training shop built to house twenty at one time will have a maximum capacity in one week of at least seven different classes of twenty, or 140. In the trade school, on the contrary, each student must be in the shop at least half of each day. If each student is in the shop half of each day, only two classes can be accommodated in each shop in the week. If the classes are limited to twenty (which is the maximum number one teacher can direct efficiently), forty students is the maximum in a given week for the same space utilizable in manual training for 140. If each student is in the shop more than half of each day, then the capacity of that shop dwindles accordingly.

It is for these reasons that the carpentry shop in the Ranken School, St. Louis, is 47 by 96 feet, with a ceiling 32 feet high over part of it; in Wentworth Institute, Boston, the foundry is two stories high, with a working space 48

by 72 feet, and in the Milwaukee School the machine shop is 46 by 116 feet, and that even these sizes seem sometimes inadequate.

*Drafting and Mathematics Rooms.* The accommodations for drafting and for mathematics, on the other hand, need vary little or not at all from those provided for this purpose in any good manual training high school. Adequate lighting (preferably from the north) should, of course, be insisted upon; likewise adequate provision for blueprinting by electricity and for teaching pupils to operate the blueprint machine. Separate drafting rooms should be provided for architectural and for machine drafting. In planning these, it must be borne in mind that the school drafting classes will constantly be making drawings and blueprints for use in the shops, since the shops are constantly making new and practical things. Liberal closet room should be provided for storage of materials and drawings, and, if possible, a good sized industrial museum or exhibit room, where pupils may study in connection with their drafting, working models, parts of machines, sections of buildings, and samples of all sorts of materials. The Königliche Vereinigten Maschinenbauschulen at Cologne has three drafting rooms, 25 feet wide and respectively 45, 40, and 45 feet long, placed end to end along one side of the building, and flanking these throughout their length such a museum 36 feet wide and 135 feet long. Doors open from these drafting rooms immediately into the museum as into a corridor (which the museum replaces), so that an instructor can bring his class directly to the object to be drawn or to the piece of mechanism which he is explaining. The arrangement is worth imitating.

*Applied Science Laboratories.* When one comes to the consideration of facilities for applied science, the departure from conventional high school arrangements is again radical, and again the demand is for space. The ordinary high school course in science is rather abstract. The apparatus is usually small, though often elaborate and finely finished. The object is the understanding of principles, with only occasionally — and in some schools never — the application of these principles to industrial uses. In the trade school, however, the primary object is to teach the application of these principles to industrial purposes and to explain the scientific principles underlying the shop and trade processes. It touches the industries all the time. Without this practical application the study has no purpose.

This involves the introduction of shop materials and industrial apparatus rather than small laboratory equipment, and the trade school laboratory must be large enough to accommodate them. For example, students in the building and machine trades need not only to understand the principles, but to become familiar with the actual operation, of block and tackle, the builders' derrick, the contractors' force pump, the gas and gasoline engine, etc., and for this combined theory and practice they need if not the larger size, at least a workable commercial size in these things. To become familiar with the strength of materials they must have commercial testing machines of large capacity. To learn the chemical characteristics they must have laboratory equipment and space suitable for analysis of paints, oils, fuels, metals, and so on.

In short, just as the shops in a trade school resemble the shops in a factory, so the science rooms should resemble the testing laboratories in a manufacturing plant, with such adaptations as have been evolved for convenience in teaching, like the placing of a lecture room, equipped with lantern, between the room used for chemistry and that used for mechanics, etc. The engineering colleges can furnish valuable suggestions in this regard. Because of the heavy nature of much of the apparatus and of the material and machines to be studied and tested, it may be advisable, both for stability and accessibility, to place the science department on the ground floor, though heavy construction and freight elevators may make this location unnecessary.

Ceiling heights in shops and laboratories must be determined by the nature of the work and by the requirements of light and air.

*Other Facilities.* Of the other facilities for a trade or industrial school, little need be said. The experienced architect confronted with the problem of combining school and factory will be able to work out his own solution. The school authorities in each case should be in a position to indicate in general what direction the courses are designed to take: how many pupils it is the desire to accommodate; how much of the time is to be devoted to shopwork and how much to science, drafting, and mathematics, and to other subjects, if any, and these considerations will determine the proportions of space. The amount of money available for building and the amount available for running the school will determine what must be omitted or deferred. Every school must have adequate class rooms, locker rooms, toilet rooms, and administrative offices, in addition to drafting rooms and shops. It is highly desirable that every school also have a library, a gymnasium, a lunch room, and at least one lecture hall capable of accommodating the entire student body at one time. This hall should be fitted for a stereopticon and moving-picture machine. Unless larger gatherings are to be held frequently, the erection of a large auditorium for state occasions is likely to prove a needless expenditure of money and space. Such a room is too apt to be idle a great part of the time. For commencements and other large occasions the gymnasium, already in almost daily use, is ordinarily quite sufficient.

Whether the school shall have its own power plant or purchase its power from outside, is a matter for local decision. Most trade and industrial schools find it advisable to include such a plant both as a practical operating steam and electrical laboratory and as a means of teaching the steam engineers' trade.

Elevators in such a school are usually not needed except for freight. Freight elevators should, of course, be placed advantageously for general access and use.

*Architectural Treatment.* The finish and looks of such a building may be left to individual taste and means. So far as the instruction is concerned, it can make no essential difference whether in outward appearance such a school resembles a school or a factory, whether it is built of expensive or inexpensive materials. If a monumental effect is desired, it is quite legitimate to have it. Some of the newer, more attractive factory buildings are quite fine enough for any school.

Whether the interior finish in the offices and class rooms and main corridors shall be of Italian marble or Caen

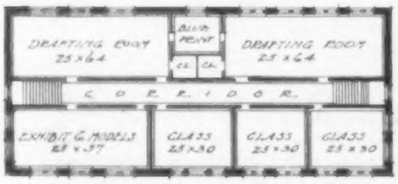
stone or hard plaster or good red brick, is again immaterial from the standpoint of instruction. Common sense will dictate that places subject to much soiling shall be of material easily cleaned with a damp cloth, and that walls and corners in shops and in corridors adjacent, which are always liable to bruises and scars from the carrying of lumber and long iron pipe, and the running of wheelbarrows and trucks, shall be of material sufficiently hard to stand such abuse. Here again the example of what is done in the factory furnishes the cue.

*Flexibility.* What is of supreme importance for the architect to realize and to remember is that this trade and industrial education is a comparatively new thing; that it is in its experimental stages; that it is developing very rapidly; that no one can forecast accurately how it will eventuate or even what the needs of any one institution or any one department in a given institution will be ten years from now, and that mistakes in concrete and brick and stone, or even the correct present adaptation of stone and brick and concrete, may prove very costly to the proper workings of a school at the end of that time.

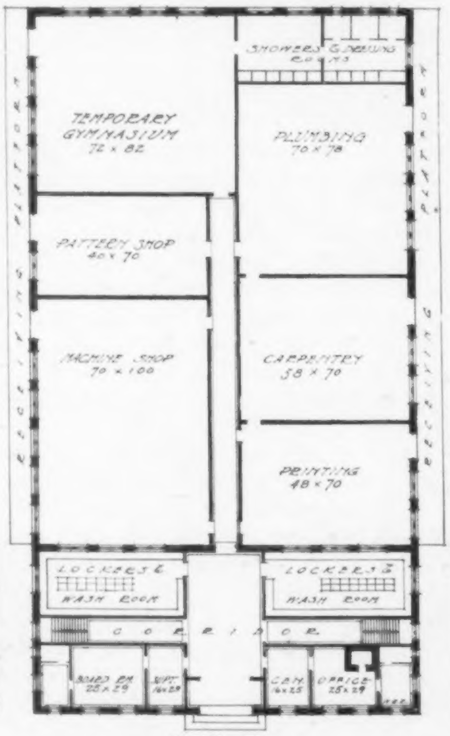
The watchword, then, must be "flexibility," and the example of the loft "to be subdivided to suit tenant" must be kept ever forward. The permanent interior bearing wall should be shunned. Large interior spaces with plenty of light and air, broken up by partitions of three and four inch hollow tile, easily removable without disturbing the main structure, and free, as nearly as possible, from ventilating flues, pipes, conduits, and other permanent things, furnish the key to flexibility. This flexibility is needed in the design of the shops and the science rooms especially. It is not so necessary in the design of the purely school part of the building.

*The Central Unit.* In all of the school buildings to be considered in detail in a second paper, there will be noted a similarity in one respect — that each school has a central combined administrative and class-room unit. In some cases this is in a separate central building, in others it is in a centrally located part of the general building. This portion usually houses the offices, class rooms, drafting rooms, library, assembly hall, etc., and the main stairs. These are sufficiently defined to require little or no change in the future. Here the architect may safely follow good high school practice. In locating the office, care should be exercised to make it easily accessible not only from all parts of the school, but also from the street, so that it may be easily found by strangers. There is much to be said for the practice of having only one general entrance, through which all students as well as all visitors must pass on entering or leaving the building. Such an entrance lends itself to ease of supervision, which in the case of trade and industrial schools (whose pupils are usually of high school age) is a much more serious matter than in colleges. If other exits are required by law, — and they are, of course, desirable anyway, — they can be made to open into the school court.

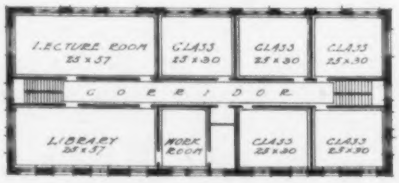
*Connecting Corridors.* It is also a general practice where more than one building exists to have the units connected by covered corridors. This is of great value, not only in helping to keep track of the students' whereabouts, but in avoiding exposure to inclement weather on the part of students and teachers in passing from one part of the institution to another. Should the building be three stories high, the placing of these connecting corridors on the middle floor will be found a great convenience and a great saving in stair climbing.



Second Floor Plan




First Floor Plan



Third Floor Plan

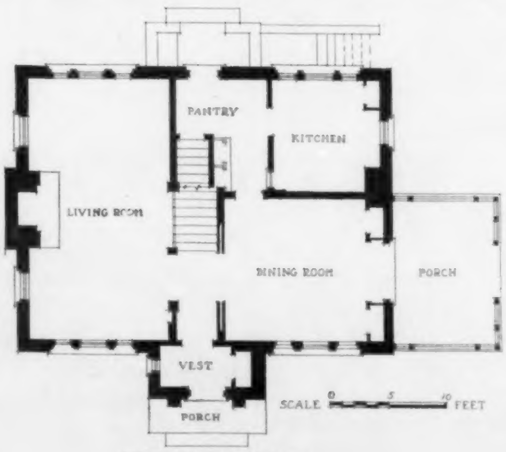
Scheme X. Simple Trade School Plan, Embodying Convenient and Efficient Arrangement of Space

*The Block Plan.* The block plan will, of course, present no serious difficulties to the architect. It differs in no essential from the block plan of any factory or hospital or other institution where size, light, air, and covered connecting corridors are desiderate.

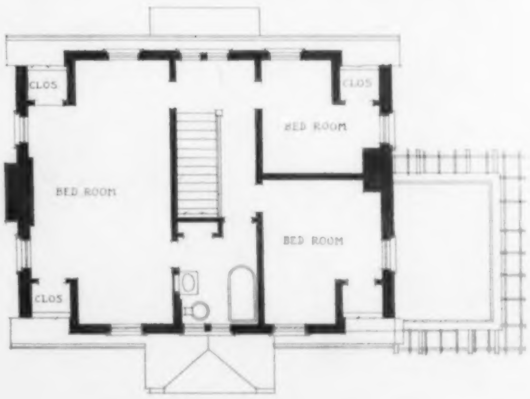
In the scheme marked X the writer has endeavored to present in its simplest form a working out of the general principles here enunciated. It will be noted that the expansion of the one-story, skylighted shop wing is limited only by the size of the ground available; that the shops are easily accessible from the main building; that locker and wash rooms are conveniently located with reference both to the shops and to the main building; that the office is centrally located and easily found; that the class rooms are ample, and that proper drafting and museum and assembly space is provided. The boiler room and the science department have been omitted. These could be substituted for the gymnasium or given space in a well lighted basement.

# Recent Houses at Forest Hills Gardens, Long Island

FROM THE WORK OF GROSVENOR ATTERBURY, ARCHITECT, AND EUGENE SCHOEN, ARCHITECT




FIRST FLOOR PLAN

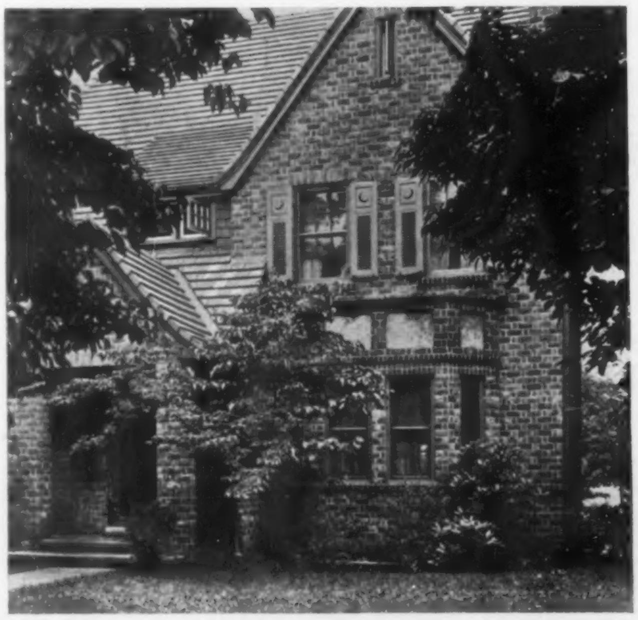



SECOND FLOOR PLAN

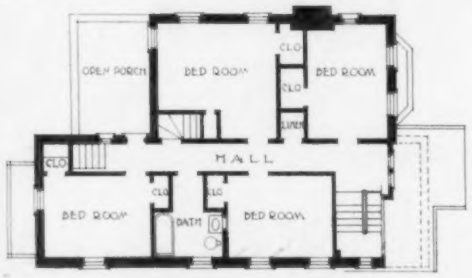
HOUSE OF MISS TAYLOR, FOREST HILLS GARDENS, LONG ISLAND, N. Y.

GROSVENOR ATTERBURY, ARCHITECT

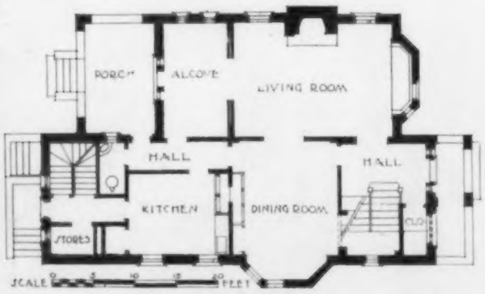
GENERAL VIEW FROM STREET



DETAIL OF FRONT




SECOND FLOOR PLAN



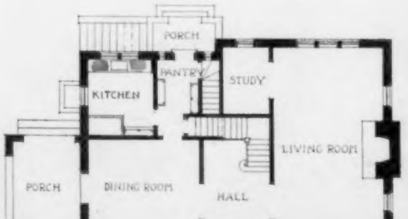

FIRST FLOOR PLAN

HOUSE OF E. G. TROWBRIDGE, ESQ., FOREST HILLS GARDENS, LONG ISLAND, N. Y.

GROSVENOR ATTERBURY, ARCHITECT

GENERAL VIEW FROM STREET

SECOND FLOOR PLAN




FIRST FLOOR PLAN

VIEW FROM SIDE

**HOUSE OF J. A. MEEKER, ESQ., FOREST HILLS GARDENS, LONG ISLAND, N. Y.**

GROSVENOR ATTERBURY, ARCHITECT

VIEW OF SIDE FROM STREET

HOUSE OF DR. THOMAS C. CHALMERS, FOREST HILLS GARDENS, LONG ISLAND, N. Y.

EUGENE SCHOEN, ARCHITECT

# Modern Practice in the Design of Bank Vaults.

## II. THE REQUIREMENTS OF SMALL BANKS.

*By* FREDERICK S. HOLMES.

NO single problem in the entire field of vault design is more difficult of satisfactory solution than that of the country bank vault. The attempted answers, as evidenced by work installed, run from no vault at all, or merely a safe and too frequently a poor one at that, to vault construction so expensive as to appear unwarranted.

How much money a bank in the country or in a small city is justified in spending for the protection of such of its funds and securities, and the collateral of its customers, as it must keep on the premises, and how this expense should be distributed, is the question. This can only be settled after a careful consideration of many factors, including the character of the bank building, its immediate environment, the size of the town or city, character of the community, possibility of burglary or mob attack, and other similar conditions, a comprehensive digest of which will decide whether the outfit should include a vault, a safe, electric protection, watchman or burglar insurance, or all, and what should be the proportionate cost of each.

Many institutions depend almost wholly upon burglar insurance, many others upon insurance plus electric protection, the addition of which materially reduces the insurance premium. Others add a fairly good safe, although of course all have some sort of enclosed storage space usually dignified by that name, which is often a misnomer. The good safe still further cuts the insurance rate. A majority of country banks, however, have vaults varying in strength from an ordinary brick enclosure without a lining, and fitted with the cheapest kind of so-called fire-proof doors, up to really good construction.

A practice unfortunately becoming too common is the use of showy bolt work, crane hinges, and pressure mechanism set upon ordinary cement filled, fire-proof doors to produce the impression that such doors are really burglar proof. The public has no way of judging the strength of any safe or vault except by its outward appearance, and it is questionable advertising to dress a fire-proof vault to appear as one of burglar-proof construction.

Unfortunately for the peace of mind of the banker, who must limit his expenditure for safe and vault construction, the element of resistance against which he must build is identical with that which menaces the urban banker; for fire burns as hotly in the country as it does in the city, and the expert burglar will not confine his attentions to the largest banks. The same appliances and the same skill in their use may be brought to bear equally in any part of the country, and while the amount of moneys carried by the smaller and more remote institutions is not so attractive as that carried in the great vaults of the cities, yet the opportunities for attack and successful get-away are far greater, and this condition should not be lost sight of.

The accompanying outline plan and section are suggested as representing a good type of fairly low cost, effective construction. The metal lining should be approximately 2 inches in thickness, built up of layers of various materials combining qualities resistant to shock, tearing effects of explosives and tools, cutting and drilling instruments, and to the oxy-acetylene cutter-burner. This lining should be surrounded, without air space, by a rod or rail reinforced concrete wall poured monolithically. This wall, in turn, should be covered on all six sides with the panels of an electric protection equipment, either central office or isolated alarm system, this in turn protected by an exterior finish, either of steel panels, marble, removable plaster sections, or wood, as may be determined by the architect.

The entrance should be protected by a single straight flange door approximately 18 inches in thickness, having carefully ground joints and built up of composite construction, including a face casting carrying reinforced concrete and anti-cutter-burner section, and inner sections corresponding in principle to the general make-up of the lining, but very much heavier. These thicknesses may be reduced if the cost is prohibitive, although such a reduction is not desirable.

The vault should be set in such position as to permit free observation of all sides, top and bottom, and also to provide access to the electric protection panel work for inspection or repairs. An open foundation is the best, although, because of the difficulty of successfully attacking a vault from the bottom, the use of an enclosed foundation as a fire-proof vault is not particularly objectionable.

Fire-proof vaults are frequently built alongside of and abutting security vaults, which is unwise practice because of the ease with which the fire-proof vault may be entered and the cover afforded for burglarious operations. Lowering platforms or tilting floor sections are not necessary if the splay of the bottom jamb is reduced to a minimum, in which case an incline foot-plate may be installed even where trucks are to be rolled into the vaults, as the rise need not be more than 2 inches in 2 feet. The floor in front of the vault at the front edge of the foot-plate should be recessed to permit the plate to sink in flush. A substantial day gate is always desirable, which should be provided with a latch lock to be opened with a key from either side. The use of an inside knob for unlocking robs the gate of practically all of its security.

The accompanying drawings show an installation of safe deposit boxes in addition to the bank's lockers and this practice cannot be too highly recommended. The revenue from even a small lot of boxes goes far toward paying the interest upon the cost of the vault. In addition to the convenience afforded the bank's customers and the advertising secured by bringing the vault work to the attention of the public, it is also a valuable factor in establishing closer relations between the bank and its customers.

The safe deposit boxes should be ample in size and the unit width should be not less than 5½ inches. This provides a double unit box of sufficient width to store securities laid crosswise, and the recently adopted outside depth of 26 inches — 2 inches greater than the older standard

— is appreciated by box renters as it provides room for two lengths of securities in the tin box with a space in front for jewelry, etc.

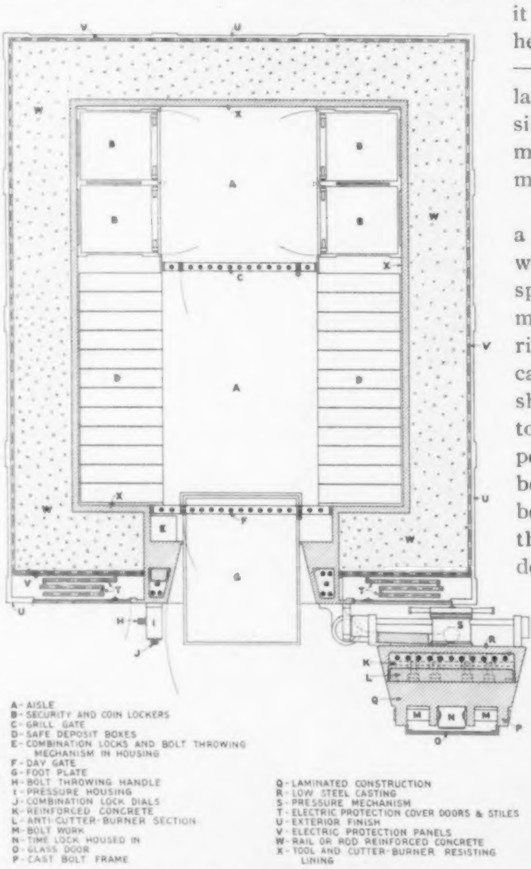
It is a mistake to economize in connection with the safe deposit boxes by using cheap key locks. The lock has always been the weakest point in the safe deposit business, and the highest grade of interchangeable key locks should be selected mainly for their intrinsic value and partly for the advertising which they furnish.

It is customary to divide by grille work the sections of the vault which are used by the public and by the bank, and this is always to be advised. The construction of the bank lockers as shown is an improvement over the older designs in that the door opening is the full size of the interior of the locker, there being no return angle frames. This is not only a matter of convenience where loose storage is concerned, but permits the use of the entire closet where filing devices are used.

Small vaults are seldom provided with electric call buttons, but their use is recommended for obvious reasons. Floor tile of any character can be used, but cork has proven particularly satisfactory except for very large, public vaults where a more dignified material is to be preferred.

Electric protection has been mentioned and is shown on the drawing as a part of the equipment. In explanation it may be stated positively that no vault can be built to-day, at a cost not prohibitive to the country bank, which will withstand an up-to-date burglarious attack of a day's duration. Consequently, some dependence must be placed upon other factors, and electric protection is one.

There are several different systems in operation, not all of equal value, and expert and unbiased opinion should be had before making a selection. These statements must not be taken as a corroboration of the position so frequently advocated by salesmen of electric protection outfits, that a protective installation in connection with fire-proof walls is all that is really necessary. All arguments in support of such a stand are fallacious, although often accepted by banks, as is evidenced by the existing great number of protected fire-proof vaults used for bank and safe deposit purposes. In the last analysis, electric protection means simply a watchman, and full reliance must not be placed upon it. All banks should have some form of mechanical and structural protection. Electric protection is by no means infallible, although it is generally so represented. It has weak points like other human productions. Even if it were perfect, there is naturally nothing about it which provides a physical stop to a burglar or mob and it would be quite practicable in many cases to ignore this protection, enter the vault, and make a get-away before the watchmen or public summoned by the alarm could interfere, to say nothing of the often proved possibility of standing off such interference with firearms and so extending the time for operating.



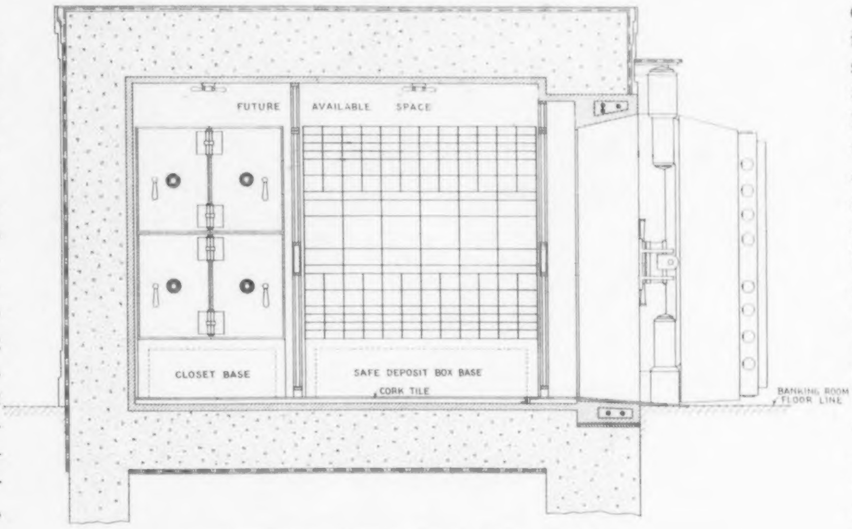

**Plan of Typical Bank Vault of Effective Construction and Moderate Cost**

Electric protection performs one service, however, that makes it a necessary adjunct even to the very strongest vaults. It effectually protects against the unauthorized entering of the vault, out of business hours, by the officers or employees of the bank who may know the combinations of the locks and be in a position to trick the time locks or to see that they are not wound or are underwound at closing time, and, indeed, that is the only reason why it is in use on many of the heaviest vaults in the country —vaults that are more than burglar proof, that were built to resist organized mobs with all the machinery that they could command.

Lighting the vault would seem a simple matter and one that would ordinarily call for no special thought, but, as with most similar subjects, there are right and wrong ways. The location of the lighting fixtures should be studied with reference to the interior equipment, especially if filing devices are to be used. They should usually be of low design, to lie close to the ceiling and permit the locker doors to be as high as possible and clear the fixtures in their swing; also to allow safe deposit boxes to run as near to the ceiling as practicable. Vault space is valuable, even that near the top which should be made conveniently available. It goes without saying that the light should be plentiful, soft, and evenly distributed. Where more than one circuit is used, fixtures should be so wired that the blowing of a fuse would not put out all of the lights in any fixture. If the vault is large or more than one story in height, and this statement refers to large fire-proof as well as to security vaults, continuous-burning night-lights are necessary to permit any one accidentally locked in to find the telephone and to assist those outside in effecting his release. It is sometimes desirable to install a low tension system of lighting, which would automatically be thrown on if the high tension system should be put out of commission, so that the vault would at no time be dark. The common method of carrying the current into the vault by means of a flexible cord with plug connection is not to be recommended; it is inconvenient, the door is often closed upon the cord and a fuse is blown, a delay is generally experienced in getting new cords, and it is a positive source of danger in connection with a large safe deposit vault where unauthorized interference would put the vault in darkness.

Properly installed and permanently located, lead covered wires may be built through the vault construction from the bottom upward without affecting its security. A switch may be located at a convenient point on the front of the vestibule; if the vault is large, this should be a momentary contact button with a pilot light, the button actuating an automatic switch.

Too frequently an architect is so limited by the bank's appropriation for the building that work even approximating the character above indicated is out of the question and he is constrained to build a fire-proof vault and allow the bank to buy a so-called burglar-proof safe and place it inside the vault. This is quite common practice, but it cannot be too strongly condemned. No safe that would be purchased under such conditions is sufficiently strong to withstand burglarious attack for any considerable length of time, and to enclose it in a fire-proof vault is simply to furnish protection to the burglar while he operates, not only giving him a concealed space, but also providing an effectual noise-proof chamber, which will eliminate, or at least deaden, the sound of explosions.



Longitudinal Section through Typical Bank Vault

It is preferable to use a burglar-resisting safe, enclosed in a heavy, fire-proof covering, and located in such a position as to be seen conveniently from the street. This safe should be set up from the floor so that the watchmen, police, and public could see under it, and mirrors should be provided and so arranged that the sides, back, and top can also be readily observed. This in conjunction with proper lighting effects and an electric protection cabinet is inexpensive and effective.

Some banks in carrying out this scheme have gone so far as to place their safe in the front window close to the sidewalk, and as even the ordinary safe requires an appreciable amount of time for a successful attack, the chances for detection are so great as to act as a deterrent, if not an actual guarantee, against any attempt.

Architects should caution their clients, however, against purchasing the ordinary commercial safe if it is to be used for protecting any large amount of money or securities, and should recommend one specially built upon plans drawn by a competent and unprejudiced designer in the interest of the bank.

A word regarding fire-proof vaults. These are too frequently built of walls so thin that they will not withstand shock of falling bodies, although they may be fully fire-proof aside from this factor. Walls of hard burned brick set in rich cement mortar are satisfactory provided, of course, that the roof supporting beams are fully protected. Concrete, either with or without reinforcement, except that the top should always be strengthened, are more common and are to be depended upon.

A wide choice is to be had from manufacturers' designs in the selection of doors. Where the fire risk is slight, outside single and inside folding doors of thin construction may serve; but if there is a possibility of any considerable fire, they should not be depended upon. A cement filled door, 6 or 8 inches in thickness, should be used Such doors have the advantage of requiring no inside doors and so conserve both space and convenience. Furthermore, if the vault is located in the basement and there is a water risk, door frames may be grouted solidly to the vault walls and the door joints packed with compressible water-proof packing, against which the door can be forced with a pressure handle; this will provide a water-proof vault, a quality which is lacking in the great majority of fire-proof vaults.

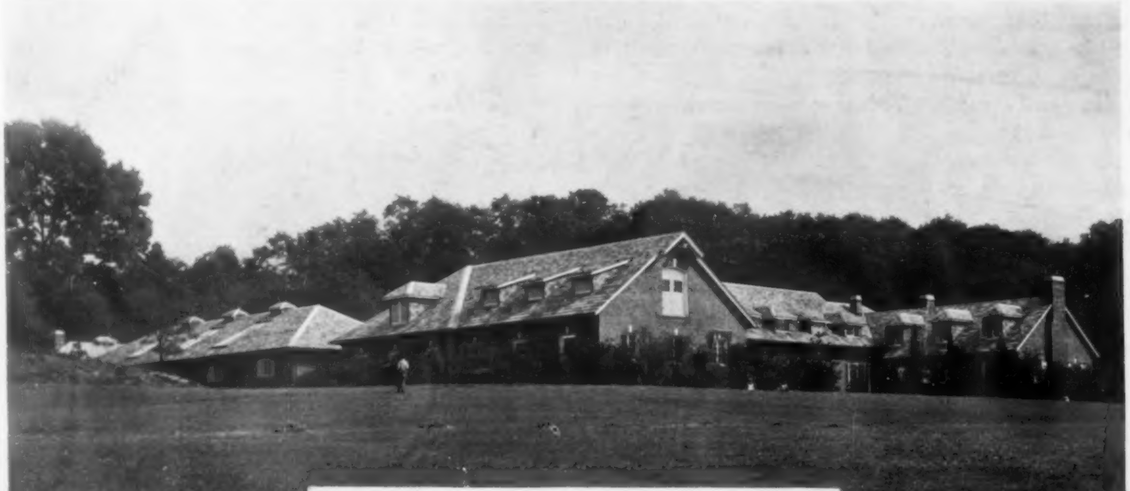
The largest and strongest vaults in the United States and Canada have been built from engineers' designs, while comparatively few of the smaller vaults have received such specialized attention, though every argument favoring the employment of an engineer upon heavy work is equally potent where lighter construction is considered. Indeed, where the expense is to be kept to a minimum such service is even more necessary, as every dollar should be made to yield its utmost in the way of security and this can only be accomplished when a full and complete knowledge of the subject forms the working basis.

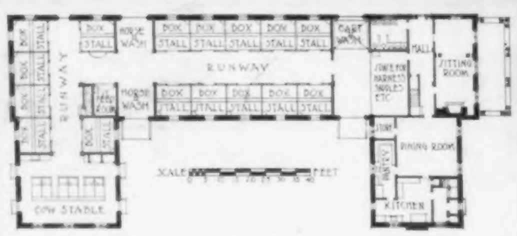
In view of the splendid showing of good design and strict economy that has been made under such conditions within the last few years, the architect who insists upon specialized advice and acquaints himself with the merit of real vault construction, and as far as practicable with its details, makes no mistake.

# Farm Buildings on the Estate of C. K. G. Billings, Esq.

AT LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT.





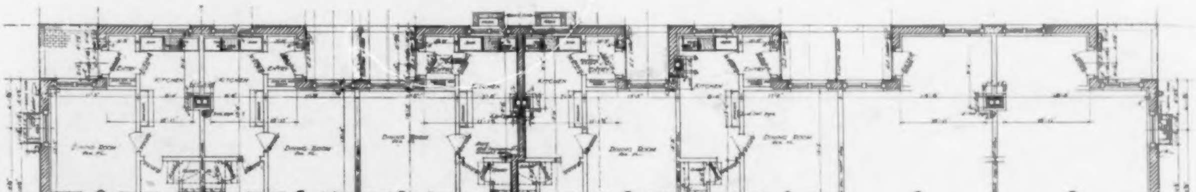

GENERAL VIEW AND FLOOR PLAN OF STABLE

VIEW OF CARRIAGE HOUSE AND GARAGE FROM STABLE YARD

GENERAL VIEW OF ENTRANCE FRONT

*THE farm buildings on the estate of C. K. G. Billings, Esq., are grouped along a main driveway, conveniently accessible to one another and placed in respect to the natural conformation of the land and not in accordance with any formal consideration of architectural planning. The buildings are mostly of single stories and are lengthened out to fit in with the gently rolling country in which they are placed. The exterior walls are constructed of red brick laid with wide, white mortar joints. The trim is of white painted wood and the roofs of varicolored slate.*

*The building illustrated above contains seven houses for servants and their families. It is simple in design and plan, but nevertheless displays much character because of the successful grouping of the windows and the clever manner in which lattice and flower boxes have been used to make points of interest in the composition. The building shown at the right is the power house.*



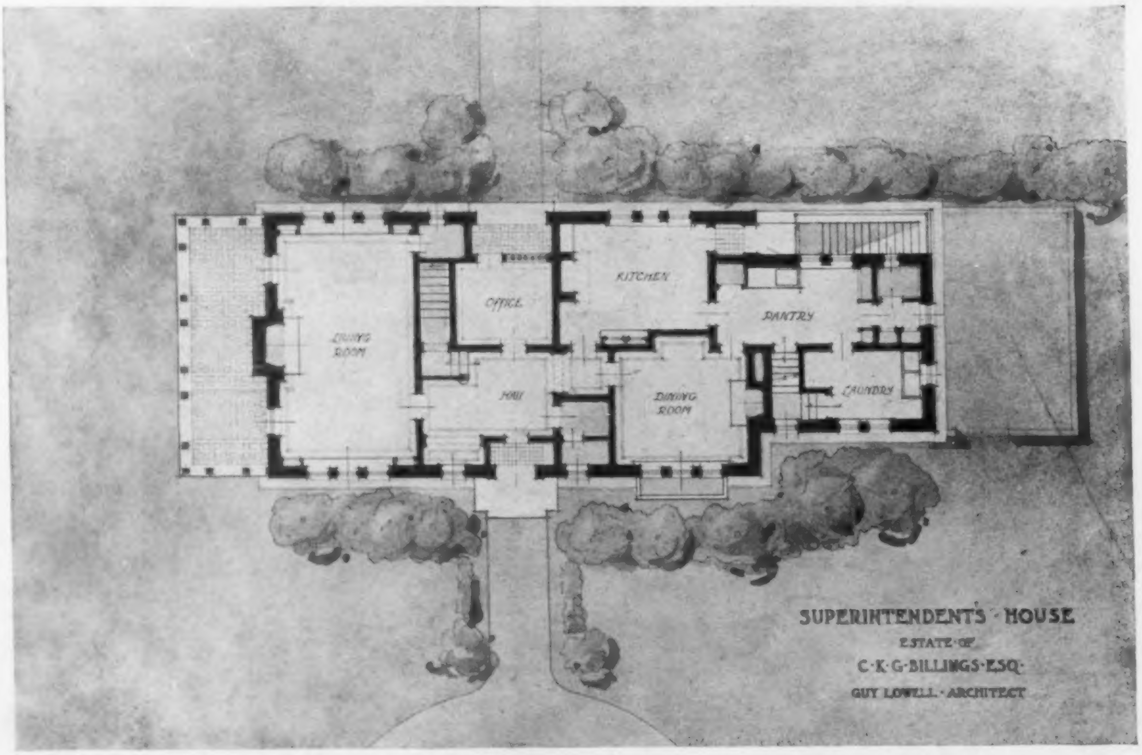
FIRST FLOOR PLAN

GROUP OF SERVANTS' COTTAGES

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT

GENERAL VIEW OF FRONT




FIRST FLOOR PLAN

SUPERINTENDENT'S HOUSE

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT

DETAIL OF MAIN ENTRANCE

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT

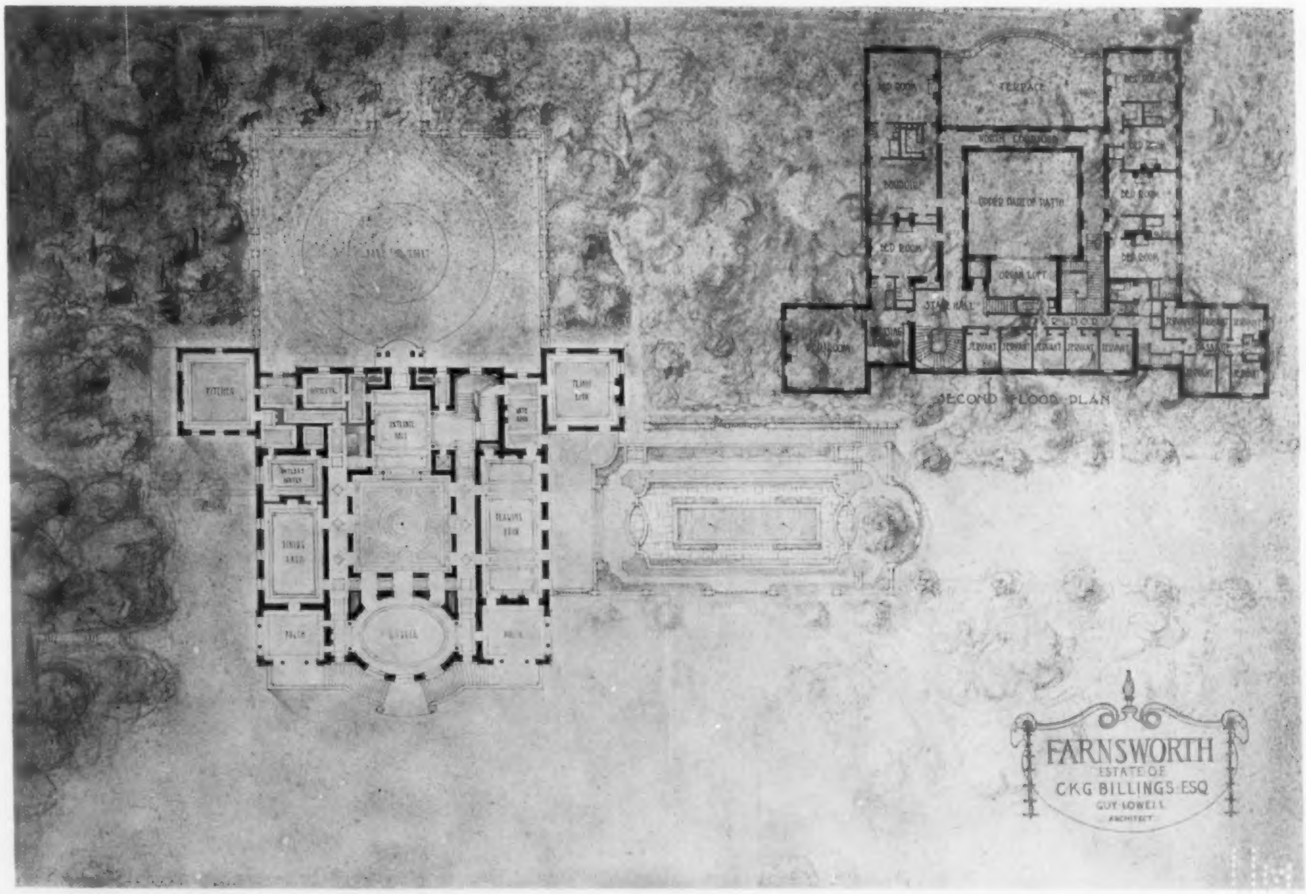
VIEW OF TERRACE SIDE

GARDEN AND DRAWING ROOM TERRACE

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT

VIEW OF ENTRANCE FACADE




PLOT AND MAIN FLOOR PLANS

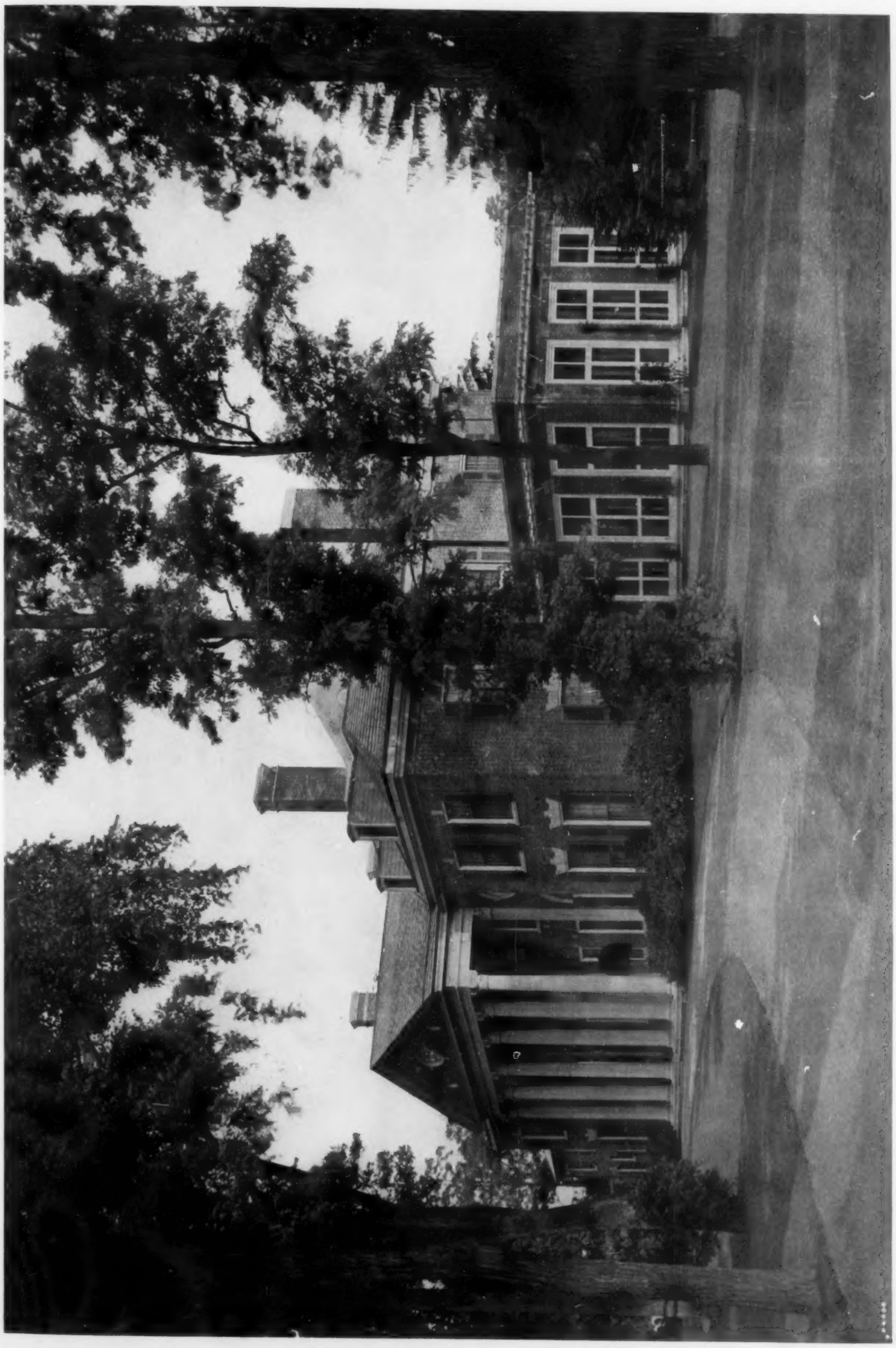
"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

GUY LOWELL, ARCHITECT

INTERIOR VIEW OF LOGGIA

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y.

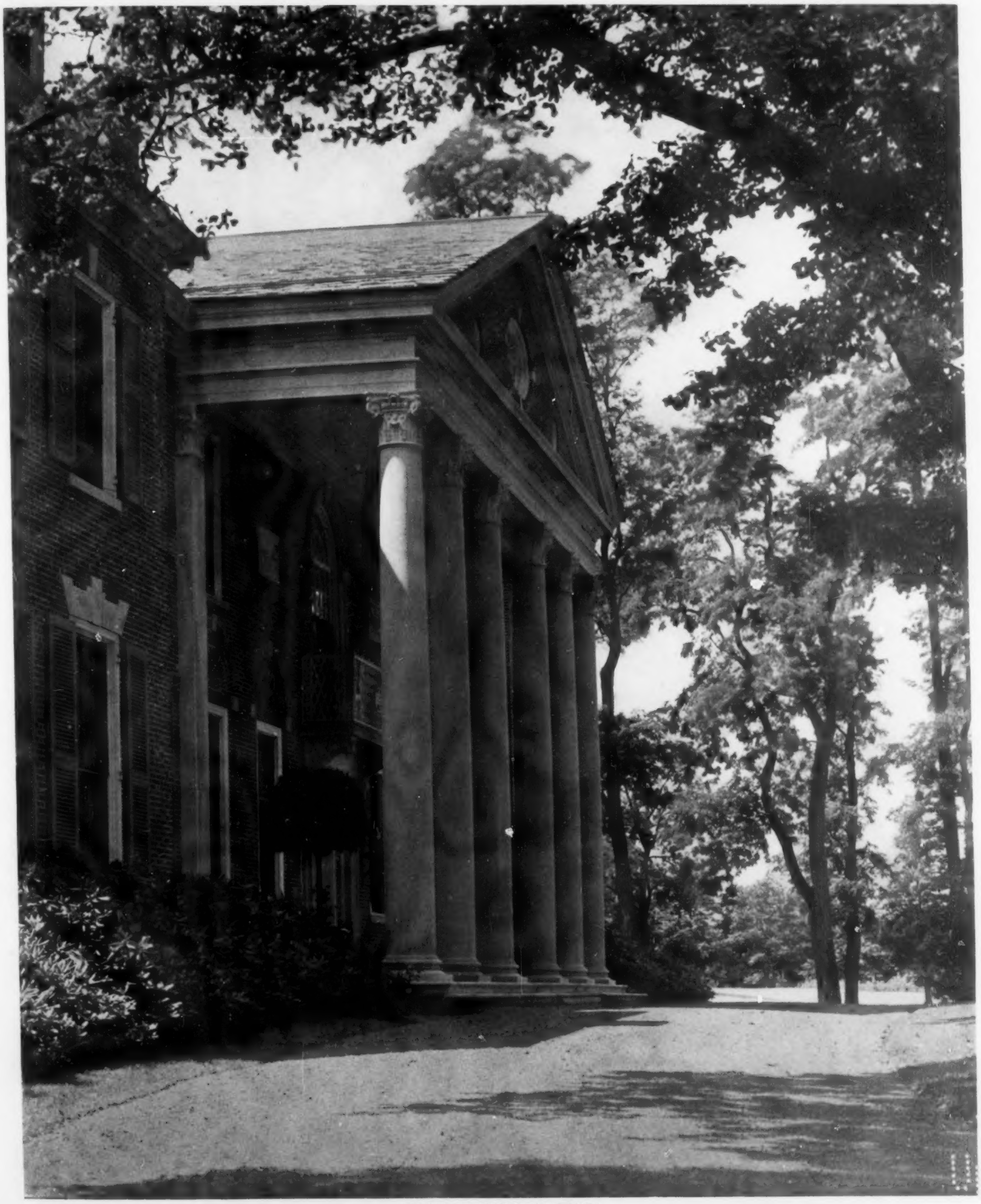
GUY LOWELL, ARCHITECT



GENERAL VIEW OF ENTRANCE FRONT

HOUSE OF CLIFFORD V. BROKAW, ESQ. GLEN COVE, LONG ISLAND, N. Y.

CHARLES A. PLATT, ARCHITECT

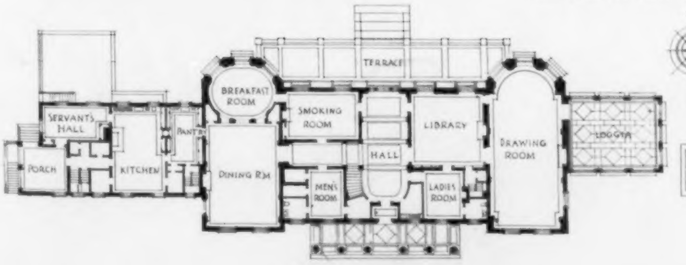


DETAIL OF ENTRANCE FRONT

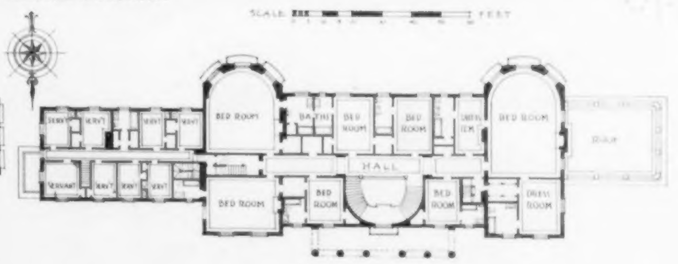
HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y.

CHARLES A. PLATT, ARCHITECT

DETAIL OF ENTRANCE DOORWAY



FIRST FLOOR PLAN

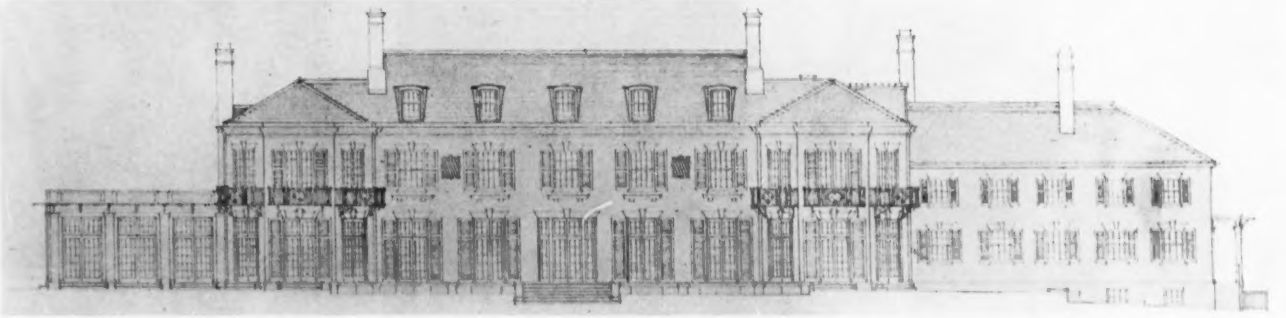


SECOND FLOOR PLAN

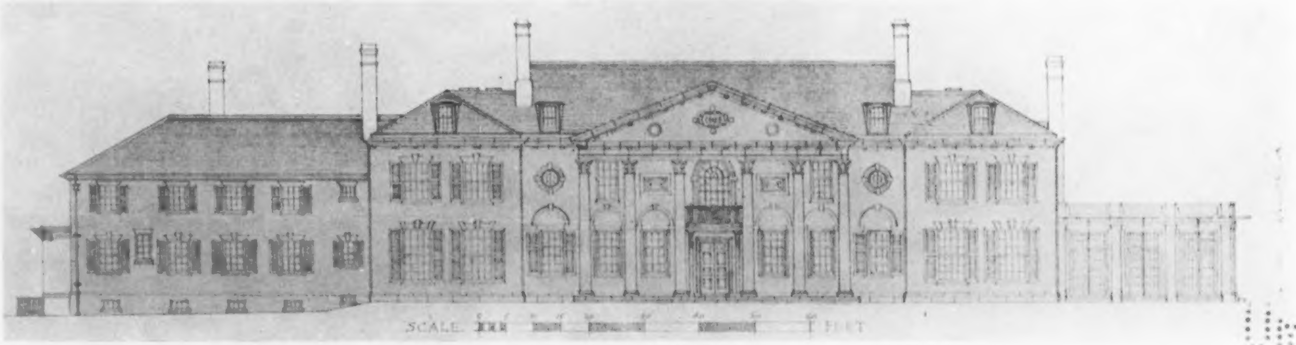
HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y.

CHARLES A. PLATT, ARCHITECT

VIEW OF TERRACE FRONT



SOUTH ELEVATION



NORTH ELEVATION

HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y.

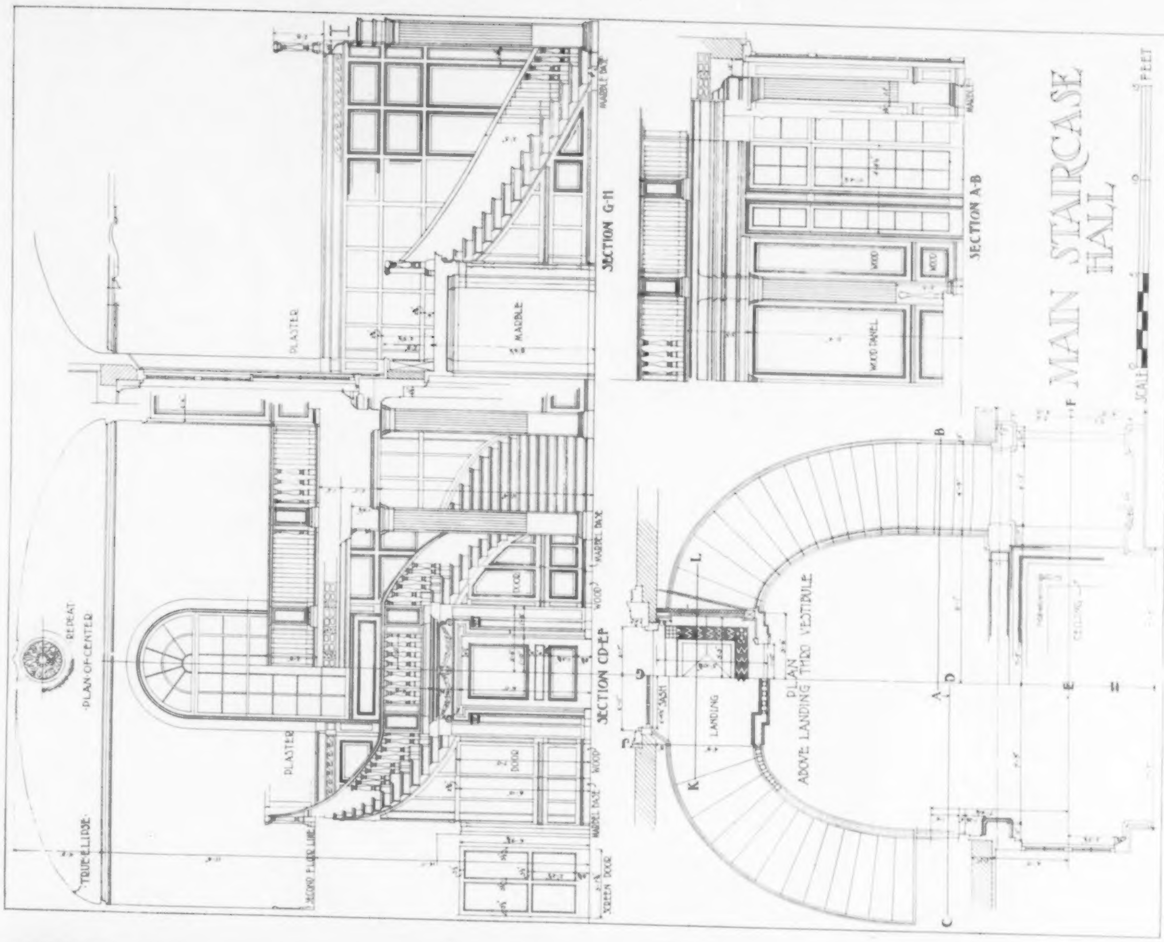
CHARLES A. PLATT, ARCHITECT

DRAWING ROOM

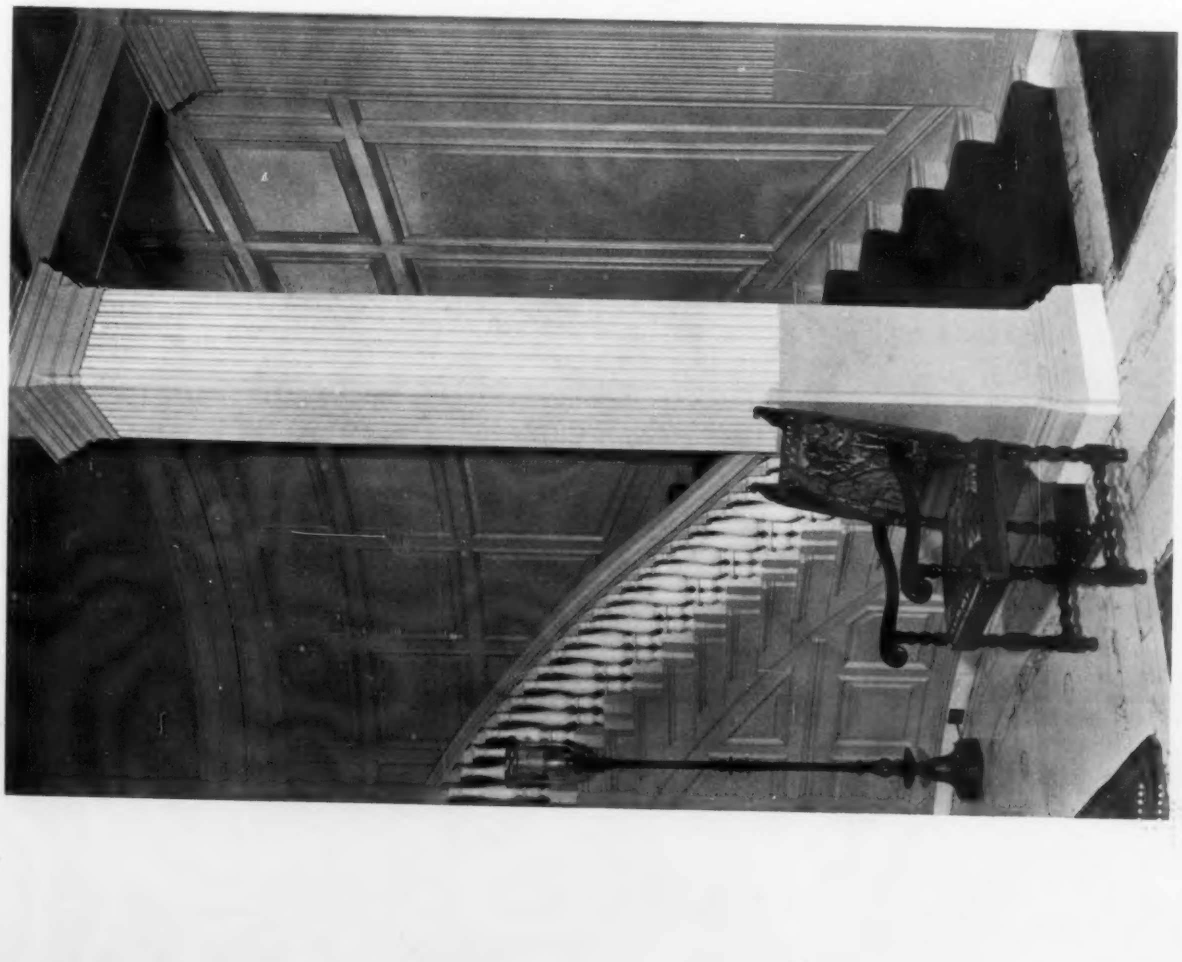
DINING ROOM

HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y.

CHARLES A. PLATT, ARCHITECT




DETAILS OF MAIN STAIRWAY AND HALL



VIEW OF MAIN STAIRWAY

HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y

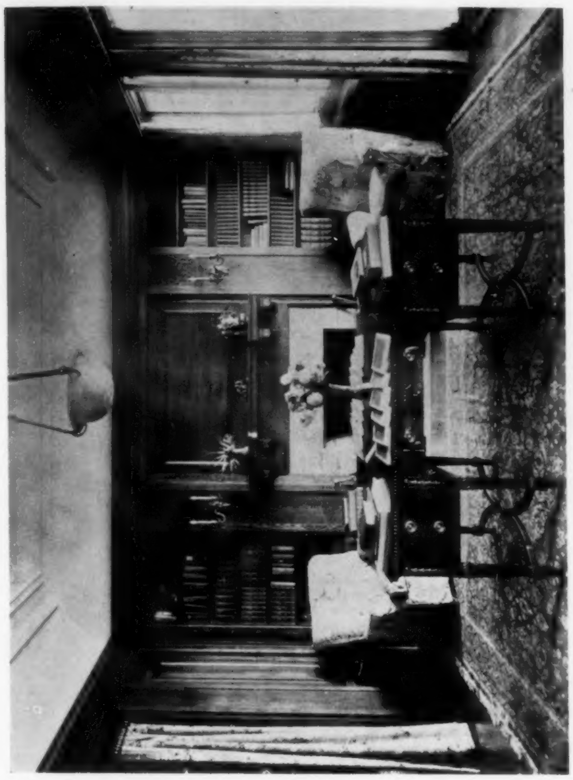
CHARLES A. PLATT, ARCHITECT

VIEW OF REAR FROM DRIVEWAY

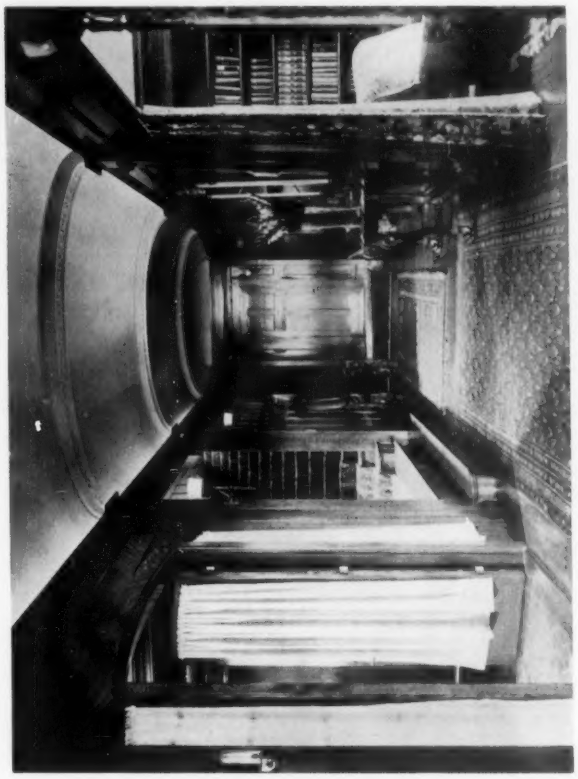
VIEW OF FRONT FROM STREET

HOUSE OF JERE A. DOWNS, ESQ., WINCHESTER, MASS.

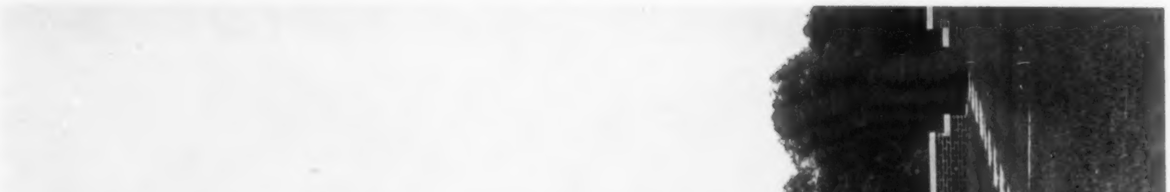
ROBERT COIT, ARCHITECT



LIBRARY



HALL AND STAIRWAY



VIEW FROM TERRACE

HOUSE OF JERE A. DOWNS, ESQ., WINCHESTER, MASS.

ROBERT COIT, ARCHITECT

GENERAL VIEW OF ENTRANCE FRONT

HOUSE OF THOMAS W. RUSSELL, ESQ., HARTFORD, CONN.

PARKER MORSE HOOPER, ARCHITECT. FRANK C. FARLEY, ASSOCIATED

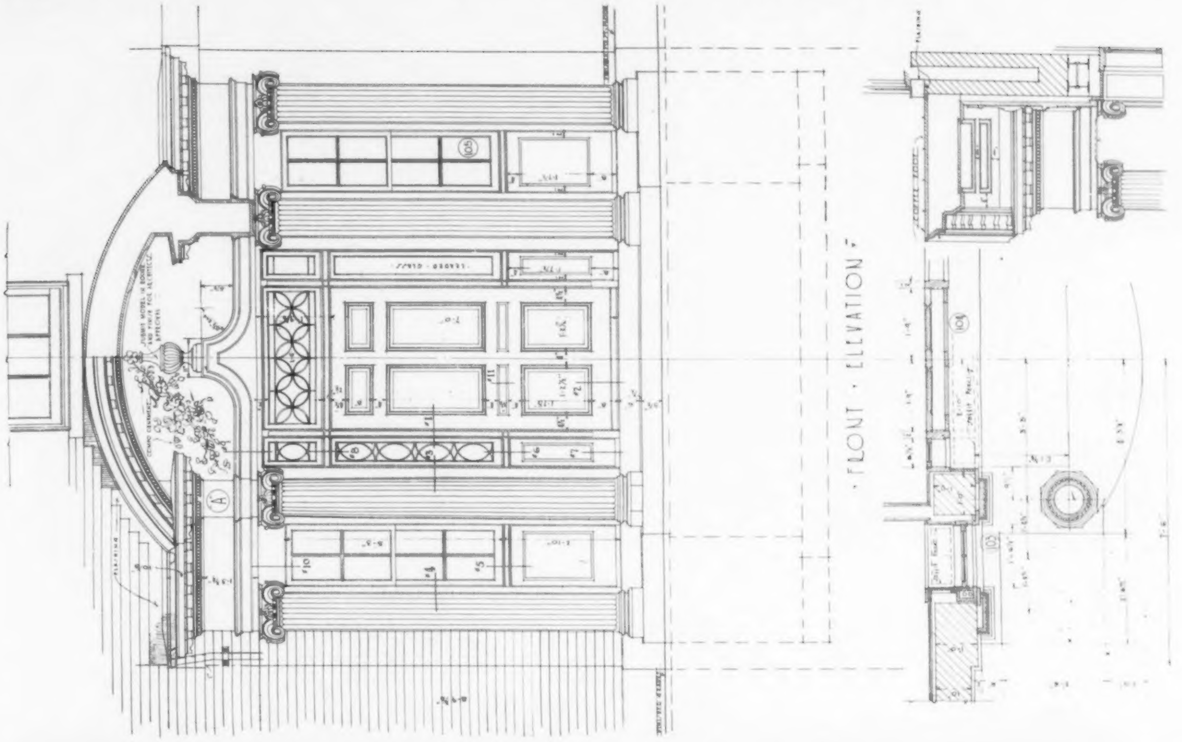
VIEW OF GARDEN SIDE

SECOND FLOOR PLAN

FIRST FLOOR PLAN

HOUSE OF THOMAS W. RUSSELL, ESQ., HARTFORD, CONN.

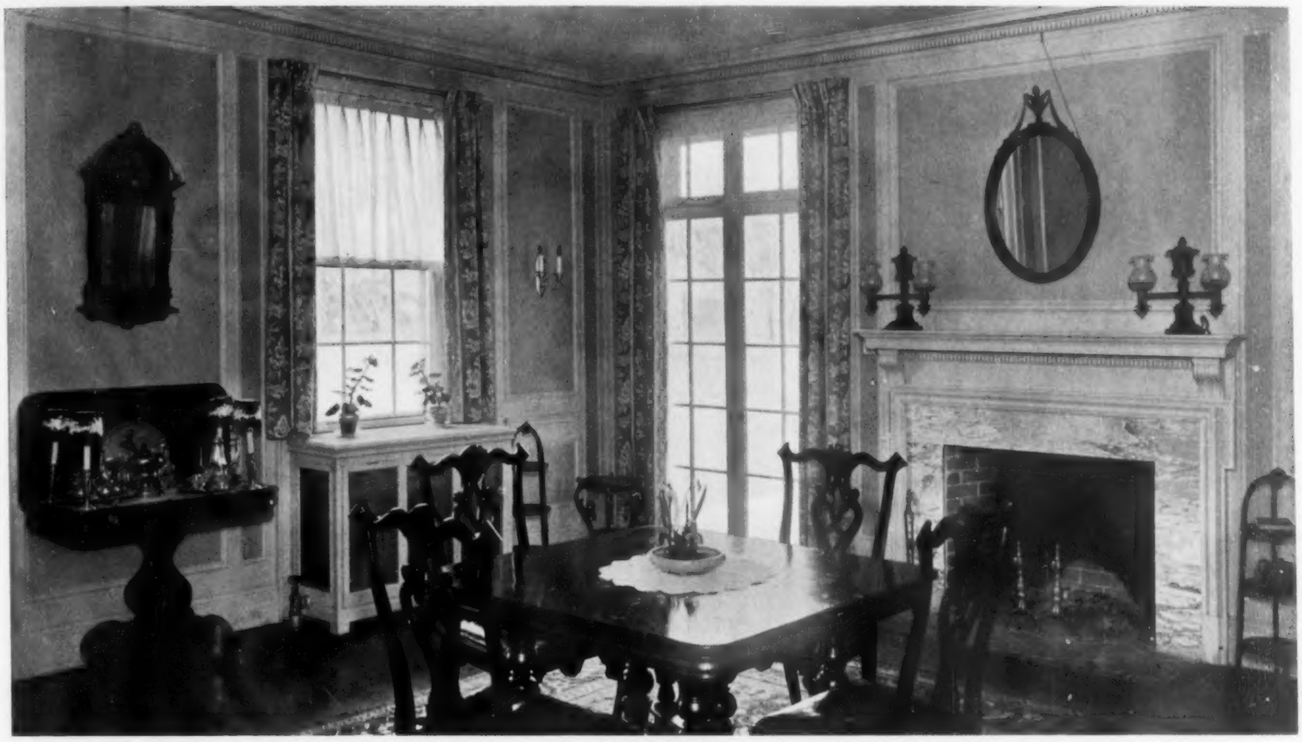
PARKER MORSE HOOPER, ARCHITECT. FRANK C. FARLEY ASSOCIATED



DETAILS OF ENTRANCE DOORWAY

HOUSE OF THOMAS W. RUSSELL, ESQ., HARTFORD, CONN.

PARKER MORSE HOOPER, ARCHITECT. FRANK C. FARLEY, ASSOCIATED



DINING ROOM

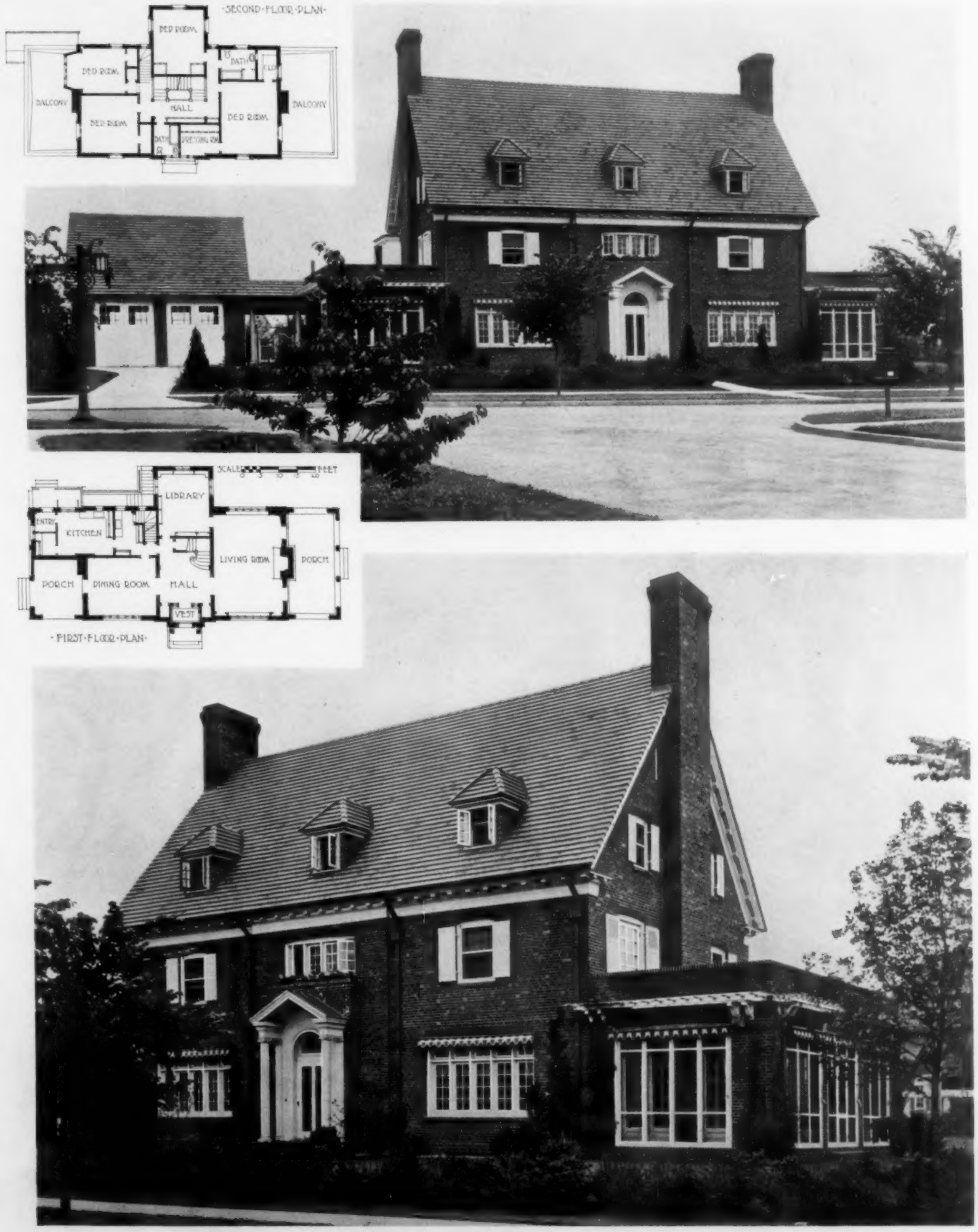
HALL AND STAIRWAY

HOUSE OF THOMAS W. RUSSELL, ESQ., HARTFORD, CONN.

PARKER MORSE HOOPER, ARCHITECT, FRANK C. FARLEY, ASSOCIATED

# Two Houses Designed by Albro & Lindeberg, Architects.

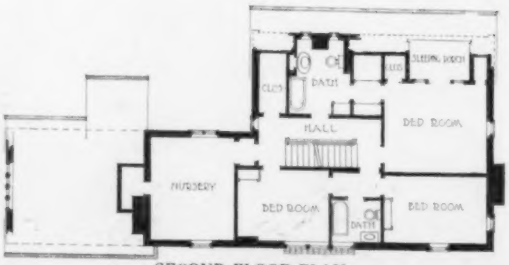
AT FOREST HILLS GARDENS, LONG ISLAND, N. Y.



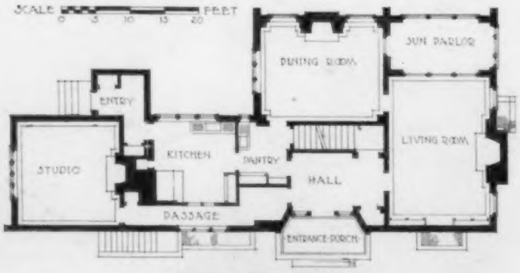

HOUSE OF HUGH MULLEN, ESQ., FOREST HILLS GARDENS, LONG ISLAND, N. Y.

VIEW FROM STREET

VIEW OF REAR




SECOND FLOOR PLAN




FIRST FLOOR PLAN

HOUSE OF BOARDMAN ROBINSON, ESQ., FOREST HILLS GARDENS, LONG ISLAND, N. Y.

ALBRO & LINDEBERG, ARCHITECTS

# Architectural Features of the Garden.—II.

*By* JOHN T. FALLON.

THE most primitive types of gardening, we may readily believe, included the raising of timber frames for the support of climbing plants. The fondness of the ancients for the simple architecture of the colonnade is an additional reason to suppose them familiar with this method of displaying bloom. Again, the alleys of mediæval days were often enclosed with a framework for flowers, their builders knowing that the bloom could not be better shown than on the formal lines of post and crossbar.

One might say that the pergola is garden architecture *par excellence;* it is not architecture in the garden nor garden products placed upon architecture. It is the simplest form of construction completely possessed by plant and flower. Yet its qualities are architectural strength, rhythm, and stability, proceeding from orderly setting out, simplicity, and the repetition of its parts. The pergola can perform a most useful part in aiding the union between house and garden; it carries with it a structural significance and whenever it can be planned as an appendage of the building, it is valuable.

It should rarely stand alone, but should be connected with the lines of the design, flanked by a wall or gateway or garden house. It forms a light substitute for loggia or cloistered walk; it gives an air of shelter or privacy to positions that would otherwise be too open.

The variety of situations in which a pergola may well be placed is equaled only by the number of types and methods of its construction. Leaning against a high wall, enclosing a formal garden, built on a terraced hillside, in these and many more positions it will be found appropriate and useful. The nearer the house, the more solid and architectural should be the construction; this does not mean that the heavier types are confined to this position. The horizontal supports for the foliage should be of wood; columns or piers of stone, stucco, or brick, and even wood posts may be employed. Quite light material may serve for useful pergolas when the surroundings do not demand more solid construction.

It is curious that sundials should be so much more frequently employed in England than on the Continent. They are sometimes seen in Holland, but rarely in France, Spain, or Italy. They seem to take the place of the fountain of warmer climes in supplying the central motive of a garden scheme. Although, of course, they were originally regarded from the utilitarian standpoint, it was not long before it became the custom to devote considerable skill and attention to the design, for which reason they often survive in their position when all other traces of the garden have disappeared.

The sundial in essence is a very practical affair. In its use it has, however, been long superseded by the clock or watch. There is much to be urged in a continued use of the sundial. Its construction and material are well suited to its place out of doors, and it makes use of the natural movement of light and shade which are a part of the garden. Let us see that the sundial if used does its work, that it is set in sunlight, and that the dial is properly calculated for the position.

The pedestal dial is the best form and the baluster the best pattern, placed in the center of a lawn. A plain stone platform level with the turf is enough to rest it upon and it should not be made pretentious. The sundials on the wall or on the vertical face of a pillar were more common than the pedestal dial in former days. The pillar is a beautiful feature amid the flowers, raised to a good height. The wall dial has a very decorative value, and on the sides of the house or garden shelter it gives a lasting touch of interest. The dial with figures of box planted on the

Garden Pedestal, Vicenza

Garden Niche, Genoa

Garden Figure, Vicenza

Pergola in Garden at New London, Conn.
James Gamble Rogers, Architect

lawn is an interesting but difficult variation of treatment.

The picture of the garden is certainly not complete without the presence of pool or fountain. The elements of earth, water, and sky seem to form a complete unity, which is sadly broken when the first named is missing. Water in the garden is worth having whenever possible for the sake of the cool freshness that pervades the atmosphere wherever the mirror-like surface of the pool or the restless movement of the fountain is seen.

Fortunate is the man who possesses a garden with a running stream. There are a variety of ways to utilize this. In case there is an appreciable fall, a cascade can be schemed both at its entrance and departure from the garden. When the volume of water is small, a little stone edged canal may be formed along the center or the side of a lawn or flower garden, allowing it to enlarge in places to square or circular pools. The narrow, straight line of water between its stone margins is a charming feature in a formal garden, besides being a simple method for conducting water to and away from the central pool.

Assuming the stream to be of large dimensions, it is well to treat it architecturally for at least part of its length. In meadows or wood the natural winding bank is delightful, but in the garden the straight line is more appropriate and has greater possibilities. The various types of wall and balustrading may be employed, giving pleasant reflections in the water. Bridges require along with other architectural features some regular treatment, the rustic type failing absolutely to satisfy.

The more favorite form of pool is either the brimful type edged with simple stone margin level with the ground or the balustraded form. The former is equally suitable to the center of a lawn or formal paved court or an enclosed flower garden. A level stretch of stone paving or turf is the ideal setting for water, variety being introduced by the size and shape of the surface. A great number of designs can be made, all of simple, geometrical outline, — long, square, circular, elliptical, — with the addition of a few re-entering angles, scrolls, twists, or curves that serve to give interest and variation.

Garden fountains are best arranged when issuing from the center of a pool, although there are many positions where the isolated basin supported by an architectural or sculptured base is equally good. Endless ingenuity has been expended in the invention of fountains and cascades for the gardens of the Renaissance, and there is infinite pleasure to be obtained from combinations of sculpture and water. The simple jet, however, can be used with remarkable effect in many positions in the garden; it brings life and gaiety wherever it appears.

The garden seat is the original possessor of the name of garden furniture. While many adornments have come to be included in this title, the seat is the one piece of furniture that is indispensable in the garden. While it performs the same function as its indoor relative, it must be in tune with the scheme of the garden. Many garden seats are made too light for permanent out-of-door use and for proper harmony with the garden, and at the same

Garden of Mortimer Schiff, Esq., Oyster Bay, Long Island, N. Y.
James L. Greenleaf, Landscape Architect

time are too heavy to be carried into the shelter of the house. The fixed garden seat should be designed along permanent lines, and its position must be chosen with due regard for the design of the garden, and must have nothing haphazard in the way it is placed.

Position is the most important thing to choose first. The seat must be put in the right and desirable place for use, and this place must also be made appropriate to the design. The necessity for seats should not be overlooked when we outline the general idea of the garden; success in this detail will depend upon the appearance of purpose thus obtained. All open terraces are excellent situations for seats. They can be arranged in recesses in the walls at regular intervals or in projecting bastions. These projections are especially valuable when the terrace commands a view. The seat must not have its back to the view; they might be at right angles to the wall in pairs facing each other. Another position is at the end of a terrace or long walk.

Although an open situation is desirable for the seat, there are many places in the garden which invite some means for resting and enjoying the beauty of the garden at leisure. On lawns, in enclosed gardens, beneath the shade of a fine tree or in some secluded spot in the wild garden, the desire for a seat will be felt. No one regards an unsheltered seat as serviceable in all weathers, but as long as it is well built it will serve its purpose in the proper seasons. It is important that a good platform be provided, of paving, preferably. Seats require some attention in keeping them clean and in good condition, and unless they are of oak, should be painted every second year.

It is often possible to devise some shelter for a seat which will not necessarily be a garden house and yet have character. An arched recess in a wall, a niche of evergreens or treillage, will answer the purpose. The material to be used for seats is somewhat of a problem. The stone seat is naturally less adaptable for use, as the material is not so dry or clean as wood, but it undoubtedly harmonizes better with the garden. The chief point to be observed is in linking the stone seat to its surroundings. Where there is a curved wall of brick or stone or low piers with balustrading, the simple stone slab set some sixteen inches high will look natural and unaffected. Link it with the structural lines of the garden; if it must stand by itself, prolong the seat at each end to form a dwarf stone wall and finish with stone tubs for small trees.

Pergola in Garden at Grosse Point, Mich.
Trowbridge & Ackerman, Architects

Wooden seats are not less dependent upon their surroundings; but being more obviously pieces of furniture and being numerous on account of their usefulness, their design is susceptible of a wide freedom. Hard woods such as oak are the best materials, left in natural color or painted; but selected pine, if frequently painted, is also serviceable.

A fuller appreciation of architectural forms in the garden should bring a more general use of treillage than is to be seen at the present day. The French *treillageurs* who brought this art to perfection were but elaborating a custom that

Garden of Col. Elliott F. Shepard, Scarborough, N. Y.
McKim, Mead & White, Architects

has existed since the earliest days of garden making. It serves the important purpose of an effective method for setting out the garden and indicating its future development. The light and inexpensive character of trellis work lends itself most readily to this purpose. Its adaptability to almost any shape enables us to raise a pattern in a few days of the boundaries and features which will take years of growth and attention to mature.

From this use treillage has developed into greater importance and has come to fill a complete department of garden design. Practically every form of architectural structure can be imitated in trellis work, and curiously the imitation often adapts itself to the garden scheme more perfectly than the original. A garden enclosed by a trellis screen with arches, pilasters, and arbors of the same material may be made a very pleasant place but it will depend upon the forms employed. Trellis may easily become commonplace or tawdry, and unless it is to be entirely covered by foliage, its structural lines should give the appearance as well as have the reality of strength.

There are many places in the garden where treillage can effectively be employed, and it generally can safely be introduced wherever our predecessors would have been tempted to the so-called rustic type of architecture. Temples, arbors, summer houses, screens, enclosures for tennis courts or paved gardens, the backs of seats—all these are easily formed of this material. Trellis work gives a definite character to the garden in which it is used, and it is invaluable on new sites and in city gardens where well grown trees and hedges are absent. Yet its beauty is greatly enhanced by a background of trees which can be seen through its semi-transparent wall.

Garden vases and the like have an unfair prejudice attached to them as being merely the properties of the out-of-door scenic artist. Many examples of these ornaments are badly made and badly placed. But properly disposed, they are legitimate inhabitants of the garden. They represent one of the ways of introducing the human element.

The vase and urn, unless of unusual size, are commonly an accessory to some more important feature. They tend to be mean and superfluous if placed along the margin of a lawn or walk; but in conjunction with a balustrade, a flight of steps, or a low retaining wall they may be of great value. They are also of great charm when in close proximity to masses of foliage. Thus they are beautiful finials to gate posts, isolated pedestals, boundary walls, etc.

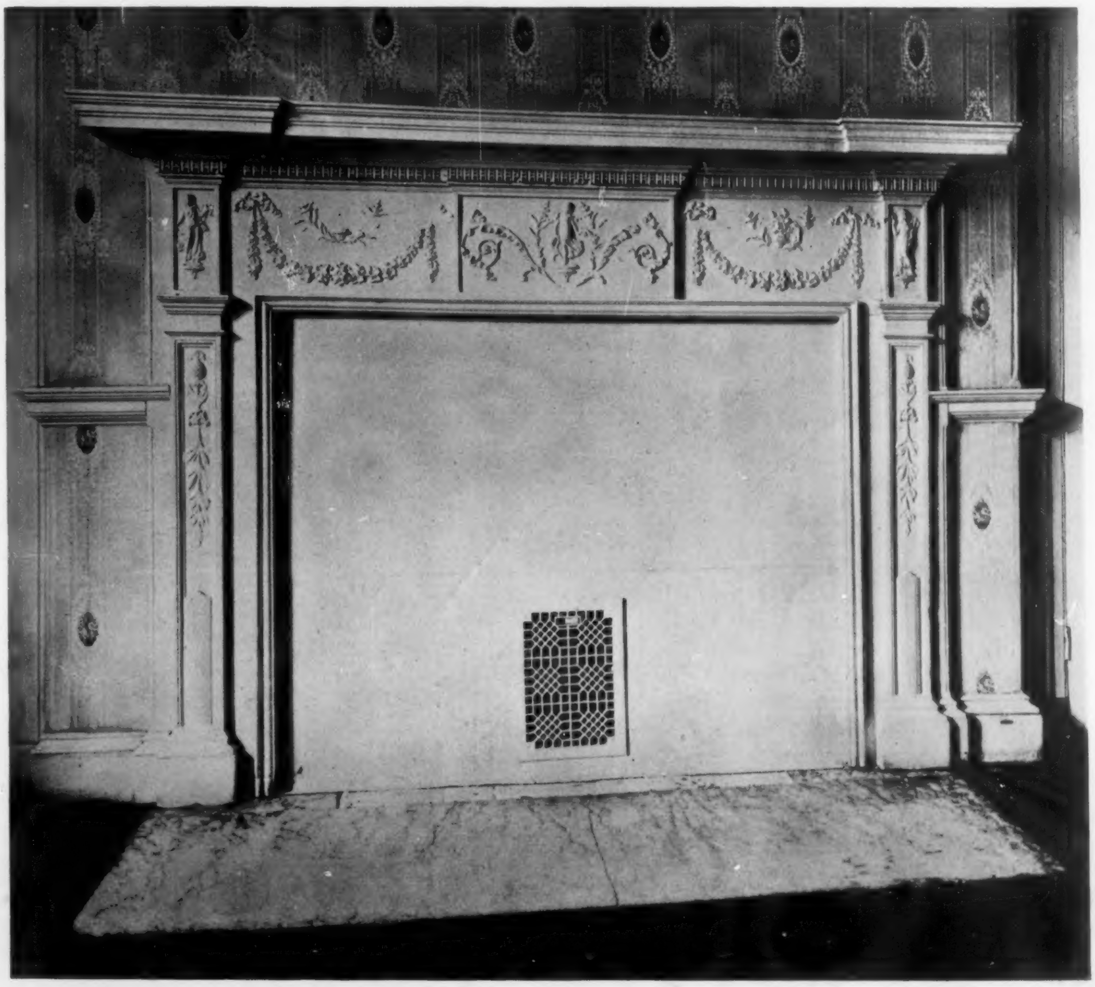
All boxes, tubs, and urns should be of ample size and set on the ground or on a structural base. The box or tub is a movable flower bed and has all the possibilities which its mobility provides. Placed at the angles of geometrical designs, emphasizing the salient points, it has the merit of raising the flowers and foliage to a higher level and thus introduces an important feature into the design.

May we make a plea for more thoughtful and intelligent garden architecture. Despite our love of flowers and gardens, the development of the architectural garden in America is just beginning.

Garden at Rosemont, Pa.
Duhring, Okie & Ziegler, Architects. Oglesby Paul, Landscape Architect

# THE BRICKBVILDER COLLECTION OF
# EARLY AMERICAN ARCHITECTURAL DETAILS.

## PLATE TWENTY-THREE.



*THIS wood mantel displays in an effective way the fine feeling for proportion which the early designers possessed and which they invested in their work. Aside from its proportions the mantel is interesting because of the elaborate mouldings used. The keynote of the composition is the geometrically carved bed moulding which enlivens the cornice through the contrast of light and shade. All of the mouldings are made up of several members so designed that the face of the complete moulding shows a group of fine lines. The individual parts are small but in perfect scale with one another, and the main divisions agree in scale with the mass of the mantel.*

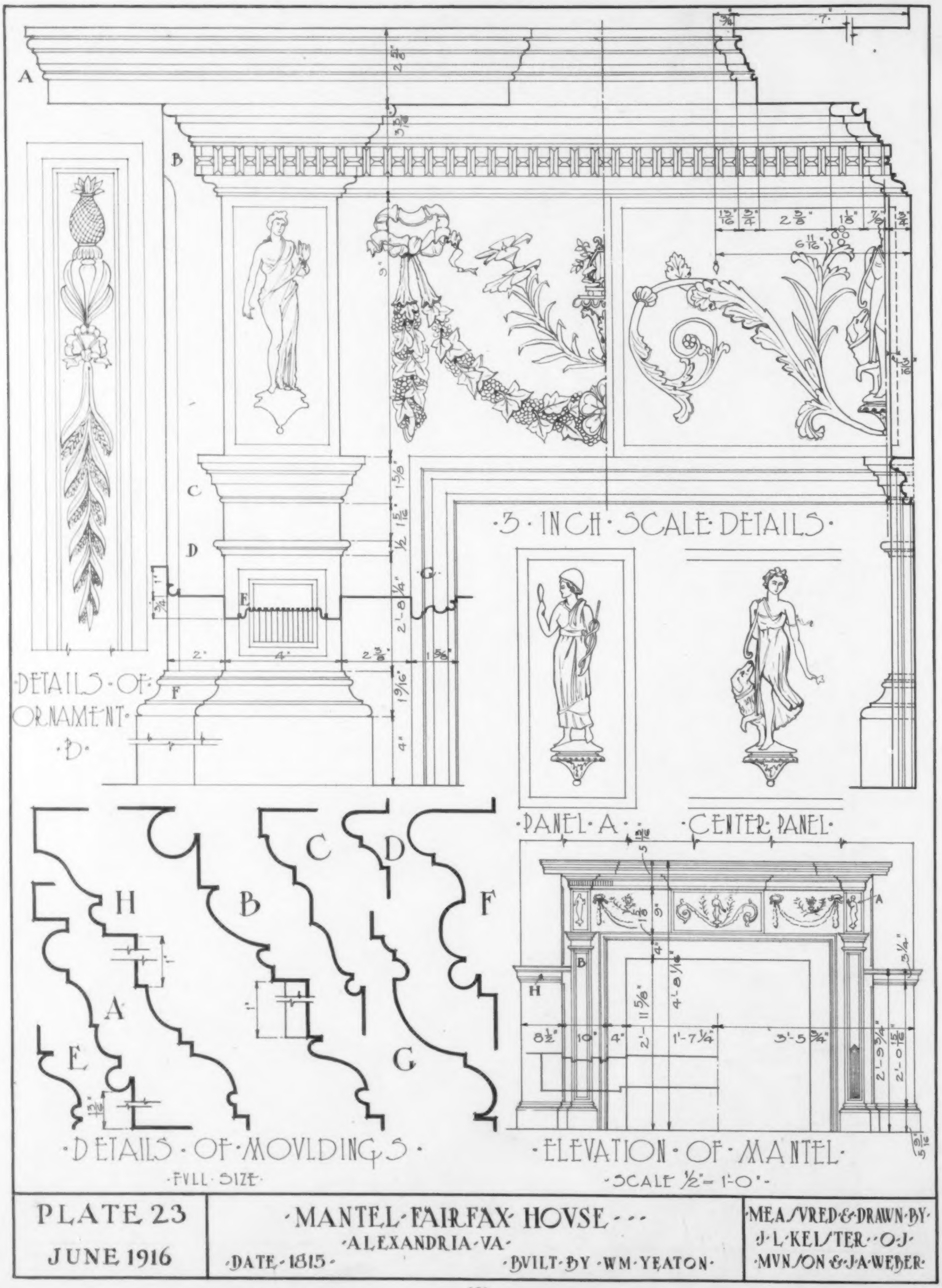
*The composition ornament on the frieze and pilasters shows very good modeling and this is especially true in the graceful festoons at either side of the center panel.*

*The fireplace opening is now covered over with plaster, hiding the original facing which was undoubtedly of light colored marble similar to that of the hearth. The other detail of the room is similar in scale and mouldings to the mantel, and the doors are divided into small panels with raised mouldings.*

## MANTEL IN FAIRFAX HOUSE, CAMERON STREET, ALEXANDRIA, VA.

**Built in 1815.**

MEASURED DRAWING ON FOLLOWING PAGE.




| PLATE 23<br>JUNE 1916 | ·MANTEL·FAIRFAX·HOVSE·<br>·ALEXANDRIA·VA·<br>·DATE·1815· ·BVILT·BY·WM·YEATON· | ·MEASVRED·&·DRAWN·BY·<br>J·L·KELSTER··O·J·<br>·MVNSON·&·J·A·WEBER· |
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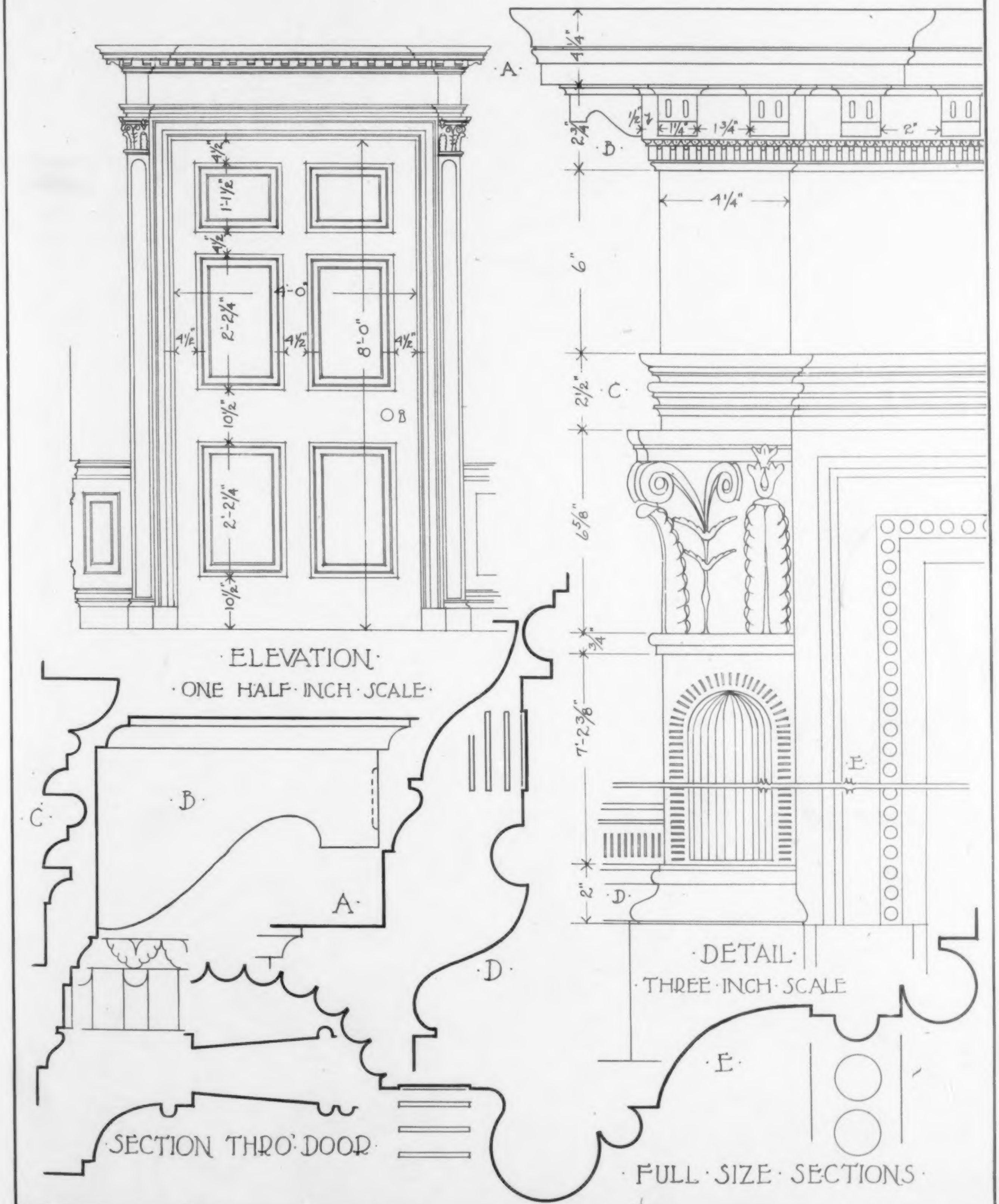


| PLATE 24 | INTERIOR · DOORWAY · HOMEWOOD · | · MEASURED · & · DRAWN · BY · |
|---|---|---|
| JUNE 1916 | · BUILT 1804 · · BALTIMORE · MD · | · RIGGIN · BUCKLER |

PLATE TWENTY-FOUR.

*THIS doorway connects one of the drawing rooms with the hall and indicates the highly ornamental finish which is used throughout the house. The interiors show great variety in treatment for in no two rooms is the same detail used. A curious feature of the interior doors is that they are pivoted and will not swing back against the wall.*

*The house has but a single story with a high ceiling, consequently the scale of the interior is much larger than is customary in domestic work of this period.*

INTERIOR DOORWAY, "HOMEWOOD," BALTIMORE, MD.

Built in 1804.

MEASURED DRAWING ON PRECEDING PAGE.

## PLATE DESCRIPTION.

"FARNSWORTH," ESTATE OF C. K. G. BILLINGS, ESQ., LOCUST VALLEY, LONG ISLAND, N. Y. PLATES 81–84. One outstanding characteristic of Mr. C. K. G. Billings' house at Locust Valley is its extremely livable quality in spite of its large size. Its architectural style has chiefly been derived from Georgian precedents with a successful blending of the features of the large Italian villa in its plan. The interest of the house is centered about the large patio in the center, paved in colored and veined marble, and lighted from above, and about which are grouped the principal rooms. This room extends through two stories and is encircled on the second floor by a corridor from which the principal bedrooms are reached. Access is also had from this corridor to a large terrace above the loggia, commanding a splendid view.

The conformation of the land which slopes toward the north and also to the east was an important factor in determining the plan. The house, because of this fact, has been arranged in six different levels, all lighted from windows above the grade, although from most viewpoints it appears to be only three stories high. The entrance is at the grade of the forecourt, opening into the hall from which a view of the patio and loggia, on a lower level, is had through a large opening supported by columns. This arrangement gives an imposing ceiling height to the principal rooms and an effective way of displaying the beauty of the interior. In the basement there are placed the servants' hall, serving rooms, laundry, etc., and on the level below this the heating plant and cellars. The servants' bedrooms are on the second floor on the forecourt side, occupying space which is least desirable from the viewpoint of outlook. Only the main portion of the forecourt side is carried to the third story level. This portion of the building is occupied by guest rooms and gives access to the large area of roof which is flat and can be used for outdoor recreation.

HOUSE OF CLIFFORD V. BROKAW, ESQ., GLEN COVE, LONG ISLAND, N. Y. PLATES 85–90. The simple and broad expression of Georgian architecture which Mr. Platt embodies in his country house designs is again evident in this house, situated under a mass of tall trees which provide a setting from whatever point the house is seen.

The exterior walls are built of dark red brick, laid in Flemish bond with ¼-inch gray mortar joints, and about 10 per cent of dark leaders. All trim is of limestone. The roof is covered with graduated slate of varying shades, ranging in thickness from ¾-inch butts at the eaves to 3/16-inch butts at the ridges.

The principal room of the interior is the large drawing room, which occupies the whole eastern end of the house. Large windows in the bay give access to the terrace on the south side. The architecture of the room is English Renaissance, executed entirely in white, with wide fluted pilasters and ornamented mouldings leading up to a richly decorated plaster ceiling.

Corresponding with the drawing room, at the western end of the house, are the dining and breakfast rooms. The dining room is a dignified apartment paneled in dark wood to the ceiling and ornamented with fluted pilasters and carved cornice similar in detail to that of the drawing room. The floor is of large squares of black and white marble.

Breakfast Room, House of Clifford V. Brokaw, Esq.
Glen Cove, Long Island, N. Y.
Charles A. Platt, Architect

HOUSE OF JERE A. DOWNS, ESQ., WINCHESTER, MASS. PLATES 91, 92. This house is situated on an eminence above the main highway, overlooking a small lake. The exterior walls show a combination of red brick, plaster, and half timber work in well proportioned areas, following the precedent of modern English domestic work. The roof is covered with slate of varying shades.

The plan is arranged to give each of the principal rooms an outlook toward the water, and the service quarters are grouped in a wing running off at an angle, forming in the rear a court from which the main entrance to the house is had. A wide grass terrace, into which stepping stones formed of tiles and cement have been placed, runs along the entire front facing the water and ties the house intimately to its surroundings.

HOUSE OF THOMAS W. RUSSELL, ESQ., HARTFORD, CONN. PLATES 93–96. This house, situated on Bloomfield avenue, well removed from the street, has its main entrance facing full south. The sun parlor and porch, facing west and northwest, respectively, command a fine view of Talcott Mountain.

The walls are built of common red brick, selected for color, and laid in Flemish bond, with a fair sprinkling of dark leaders. The sills and key blocks of the first and second floor windows are marble, while the cornice and entrance porch are white painted wood. The roof is shingled. The interiors show Georgian precedent in their treatment in accord with the exterior. The hall and dining room are paneled with mouldings laid directly on the plaster walls.

# EDITORIAL COMMENT AND NOTES FOR THE MONTH

EACH successive year sees a larger interest shown in the effort being made to bring about an organized and systematic development of American cities. Considerable impetus has been given to the movement, which is generally recognized under the broad head of city or town planning, and the attention of the general public has been attracted to it through town planning conferences, held in important cities of the country during recent years, and because of the publicity which the American Institute of Architects has given the subject through its committee on town planning. This interest is far from being universal, however, and it probably has been engendered more from motives of curiosity than from a full knowledge of the benefits that would be derived from an adoption of the principles recommended or from an appreciation of the existing poor conditions.

There are conflicting ideas in the public mind concerning the meaning and purpose of town planning. There is but little comprehension of what the results sought for would be, the cost to obtain them, and the methods that would be employed to effect them. There is too general a fear that the adoption of plans organizing a city's development means a vast expenditure of money with which a municipality could not afford to burden itself. It is not appreciated by the great mass of American people that city planning, on the contrary, is really a preventive force, with the purpose of eliminating, as far as human agencies can, the mistakes in development which sooner or later will demand readjustment.

The average citizen becomes fully cognizant of the retarding force of narrow streets and poorly arranged main arteries of travel between centers to a city's growth only when it is evident that traffic congestion has become so great as to choke up every outlet, and to spell simply confusion and disorder if further expansion is attempted. Although he recognizes the evil when it exists, he has not the power of vision to see that all these conditions can be anticipated and that with expert knowledge and care the functions of various parts of a city may be forecast years in advance and the proper methods for their development determined.

This prevailing impression is the result of little or no knowledge of the subject and is a condition which militates against the appreciation of the vast good that will come from the co-operation of all citizens in the movement. A campaign of education must be carried on which will correctly convey to the public mind the great benefits of city planning and the means by which results are obtained. Such work is being done now, it is true, as the case of the Chicago City Plan Commission will testify, by their introduction into the public schools of that city of a text-book to acquaint the coming generation with the Chicago Plan, but the possibilities of constructive work in stimulating more active interest are still far from development.

At the recent National Conference on Community Centers means were discussed for enlisting the attention and co-operation of the public. It was pointed out that the encouragement of small neighborhood centers, apart from the larger city unit, would engender a local civic pride which would gradually lead, through the effect of making each district a complete civic unit, to a general expression in co-operation which would have for its ultimate aim the grouping of these several communities into one corporate whole. These centers are growing up about every large city to-day ; but little effort is made by the private interests that control their development to insure open spaces and blocks that can be used for the building up of a social center or for the municipal and public structures certain to be needed in the future. Rarely are the streets arranged on any other than the gridiron plan, and from the start every obstacle is placed in the way of realizing a community in which the various units will be logically disposed and the whole joined by suitable arteries of communication into one organism. These same communities will, in the course of time, be called upon to be an integral part of the large city unit. Unless a broad, constructive policy has dictated their development from the first, when the need for expansion comes, the truth will be learned that the city has been encircled with a group of wretchedly planned suburban communities which stultify further growth because of their absolute unfitness to form a part of any large scheme, and the inevitable readjustment, with tremendous expense entailed, will be the accompaniment.

Education tending to develop the community spirit will be a strong influence in bettering conditions ; but in no more forceful or better way can the advantages of organized development be proved than by the architect in advocating the proper placing and interrelation of public buildings, the orderly development of private property, the provision for future expansion, and the necessity for parks and open spaces that will afford light, air, and opportunities for recreation to the people residing in the neighborhood.

The architect is naturally endowed with creative imagination which enables him to have a broader vision in big constructive problems than almost any one else, and the city planning movement is well deserving of the best use of his faculties and his vigorous co-operation. City planning is indeed closely associated with architecture ; it demands the same combination of qualities that are needed to make a successful architect and provides a fertile field for the application of the greatest talent. Architects are fitted to be leaders in city planning and it devolves upon them, both from civic obligation and duty to their profession, to participate in the movement and give to it the support which their talents, training, and experience make possible.